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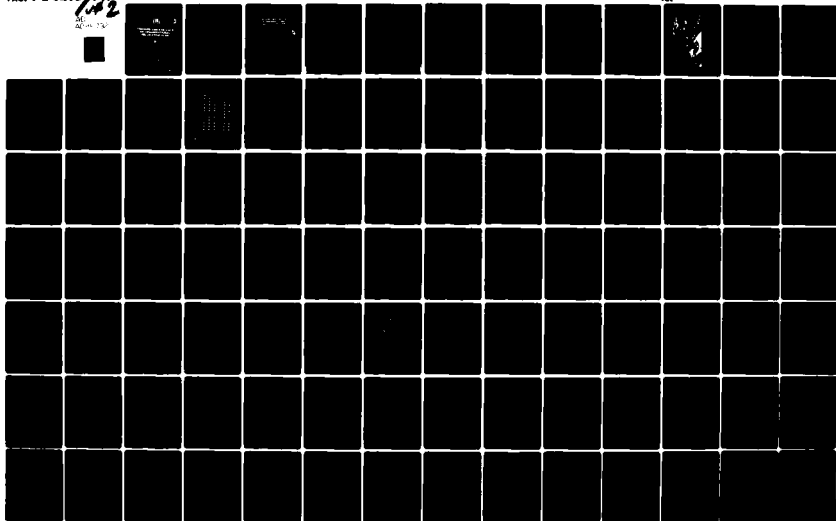
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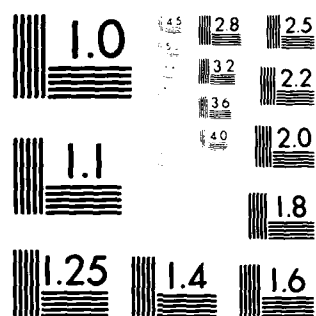
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**FINAL REPORT**

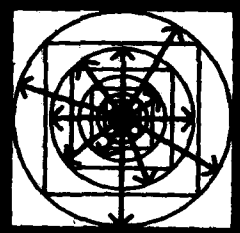
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April 1980

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**PREPARE AND EVALUATE  
AN ORGANIZATIONAL  
RELOCATION PLAN**

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**BOEING AEROSPACE COMPANY**

P.O. Box 3999  
Seattle, Washington 98124

A Division of The Boeing Company

W7500-0000-0013

June 5, 1980

Defense Technical Information Center  
Cameron Station  
Alexandria, VA 22314

Dear Sir:

Enclosed please find a copy (or copies) of the report "Prepare and Evaluate an Organizational Relocation Plan" produced under contract DCPA01-79-C-0218 for the Federal Emergency Management Agency. This report is being sent to you by specific request of FEMA. The study evaluated the organization relocation concept and the federal guidelines (Guide for Crisis Relocation Contingency Planning "Part V: Organizational Planning for Crisis Relocation") for preparing particular organizational relocation plans (ORP).

It is recommended that the reader review the Part V guidelines either prior to or during their examination of this text. Copies of the Part V guidelines should be available from your nearest regional FEMA office or FEMA Headquarters Washington, D.C.

Any comments or recommendations regarding this document should be addressed to the Mitigation and Research Section of FEMA Washington, D.C. 20472.

Sincerely,



John M. Miller  
Project Manager  
Boeing Aerospace Special Projects

**BOEING**

12

# **PREPARE AND EVALUATE AN ORGANIZATIONAL RELOCATION PLAN**

## **FINAL REPORT**

by

John M. Miller  
I. James Carney  
Paul J. Parham  
George R. Pedersen

(Boeing Aerospace Company - Special Projects)

for

Federal Emergency Management Agency  
Washington, D.C. 20472

Prepared Under Contract Number DCPA-01-79-C-0218

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### **FEMA Review Notice**

This report has been reviewed in the Federal Emergency Management Agency and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Federal Emergency Management Agency.

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This study evaluates the OR concept and the guidelines for preparing specific organizational relocation plans (ORP). Private-sector industrial planners followed the written instructions, acquired data from various sources, and prepared a prototype ORP for a representative facility employing 7,000. The plan covers movement of 18,000 people from the risk area to pre-designated host areas. Different reviewers, internal and external, commented on the ORP. The study concludes that OR is a sound approach, that the guidelines are somewhat understandable and workable, and that much work should be done to improve the basic data preparation instructions and expand the role of industry. (Reference: Guide for Crisis Relocation Contingency Planning "Part V: Organizational Planning for Crisis Relocation").

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**PART ONE**  
**Executive Summary**



## **Abstract**

Crisis relocation is a form of civil defense which involves evacuating major cities if war threatens. Organizational relocation (OR) could be an important part of crisis relocation. Many organizations, especially large firms, have the means to move employees and dependents. This study evaluates the OR concept and the guidelines for preparing specific organizational relocation plans (ORP). Private-sector industrial planners followed the written instructions, acquired data from various sources, and prepared a prototype ORP for a representative facility employing 7,000. The plan covers movement of 18,000 people from the risk area to pre-designated host areas. Different reviewers, internal and external, commented on the ORP. The study concludes that OR is a sound approach, that the guidelines are somewhat understandable and workable, and that much work should be done to improve the basic data preparation instructions and expand the role of industry. (Reference: Guide for Crisis Relocation Contingency Planning "Part V: Organizational Planning for Crisis Relocation")

## **Key Words**

Crisis relocation, civil defense, organizational relocation, planning guidelines, organizational relocation plan, risk area, host area, industry.

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- o 24 km (15 miles) south of Seattle
- o 150,000m<sup>2</sup> covered area... 55% office/20% lab/25% mfg
- o 1,720,000m<sup>2</sup> (430 acre) site
- o Current capacity 7,300 people

## SPACE CENTER AS TEST CASE

**PART ONE**

**EXECUTIVE SUMMARY**

## 1.0 PART ONE--EXECUTIVE SUMMARY

### 1.1 INTRODUCTION

Last January Boeing Aerospace Company received authorization (Contract DCPA-01-79-C-0218) to prepare and evaluate an organizational relocation plan. The contract performance period was originally set from January 8, 1979, to January 4, 1980, and included the following eight tasks:

- Task 1--Program planning and control
- Task 2--Collect data
- Task 3--Draft an organizational relocation plan (ORP)
- Task 4--Review the ORP draft
- Task 5--Evaluate Part V guidelines and the draft ORP
- Task 6--Evaluate adaptability of Part V guidelines to other crisis scenarios
- Task 7--Provide technical assistance
- Task 8--Submit quarterly and final reports

Work commenced on January 8. Task 1, which was produced as a Work Plan document, enabled Boeing to establish contractor objectives, schedule all tasks, designate a team of specialists with specific responsibilities for the accomplishment of tasks, and formulate necessary controls to ensure satisfactory performance within time and cost constraints.

An important early action was the involvement of Boeing managers considered essential to the planning and evaluation processes. Central to this action was the establishment of regular review of project activities by the Senior Management Council. Other managers--those with functional responsibilities affecting the ORP concept--were briefed on the project as well as our two major unions. By mid-February, more than 50 executive-level contacts had been made, during which time functional support to the project was committed and reviews of the pending ORP draft were scheduled. Responses to these presentations were excellent, and subsequent positive achievements in accomplishing the contract tasks were due in large measure to the enthusiastic participation of Boeing management.

Contacts were also made with community agencies and other outside organizations. To date, ORP briefings have been presented to the King County Labor Council, Washington State Department of Emergency Services, Battelle Human Affairs Research, State of North Carolina Division of Civil Preparedness, DCPA Staff College, Region 10 Department of Transportation, Region 10 Federal Emergency Management Agency and District Naval Reserve Training Command. Responses to these contacts have also been useful and cooperative.

This report consists of three parts. Part One--Executive Summary provides an overview of the project, some general conclusions and observations, and a summary of evaluation results, which also serves to index the more detailed comments contained in the body of the report. Part Two--Main Report describes the methodology used in accomplishing each task, displays in matrix form the detailed evaluation of both the Part V guidelines and the draft ORP, discusses the adaptability of the Part V guidelines to other crisis scenarios, and offers recommendations relative to a follow-on effort. Part Three is the complete draft ORP plus written review comments from the Senior Management Council and four outside review agencies.

## **1.2 CONCLUSIONS AND OBSERVATIONS**

Performance of this contract has provided useful insight into the problems of keeping an organization intact and of moving a base of operations under the threat of a nuclear crisis. Overall, the feasibility of the organizational relocation concept has been confirmed; and the Part V guidelines have been found to be somewhat understandable and workable, though in need of refinement.

Contrary to our expectations, the ORP project clearly showed that most people are interested in civil defense. Boeing employees randomly selected in an in-house survey overwhelmingly supported the relocation concept, 93 percent declaring that they would participate in a Boeing ORP in a real-life crisis and 43 percent saying that they would be interested in participating in an exercise to test the relocation plan. A startling 99.7 percent indicated that they have personal automobiles that they would use in an evacuation, whether they went with the Boeing ORP or acted

independently. Many persons commented on the urgent need for updated planning and preparation for a nuclear threat.

Although the Part V guidelines afford a sound basis for planning, they also reveal some areas where improvement is needed. One such deficiency is the rather matter-of-fact tone in which the audience for the guidelines (which includes a sizable body of organizational decision-makers) is addressed. It will be necessary, first of all, to convince them of the gravity of the problem and the urgency of developing effective countermeasures. This can best be accomplished by including in the introduction some current geopolitical theory and data as well as some realistic examples of potential nuclear crises.

After overcoming what can be assumed to be a high level of resistance on the reader's part by the means suggested above, it will then be necessary to address some problems that are real and familiar to that particular reader. This raises a serious question as to whether it is possible, once the introductory stage is set, to offer common instructions to an audience as wide as that which is suggested by the definition of "organization" provided on page 28 of the guidelines. We think not. Large, complex organizations will face problems, both in planning and implementation, that are vastly different from those of smaller concerns such as the one modeled in the guideline document, and institutional requirements are likely to be far removed from those of industry. This being so, it seems desirable to provide a single document establishing the need for and the concept of ORP, then to provide separate instructions for "clusters" of organizations that have closely similar needs and interests. One immediate advantage of this approach is that it will permit a more definite (i.e., less tentative) treatment that can be expected to convince many readers who are already skeptical about the organizational relocation concept.

Another problem is that the organization of the guidelines does not facilitate ready access to specific items of information. A more cohesive structure and some reader aids (e.g. index, glossary, lists, tables, illustrations, and examples) will be of great assistance to planners and other users.



There are some notable omissions from the Part V guidelines. These include (a) instructions concerning "return," (b) emphasis on establishing and maintaining a smooth working relationship between the organization's planners/Advance Party members and the counterpart officials of the host area, and (c) detailed information regarding the essential logistic support (gasoline, food, and other essentials) needed to carry out a major relocation.

A more comprehensive and detailed evaluation of the Part V guidelines is provided in section 2.2 of this report.

### **1.3 SUMMARY MATRIX OF PART V GUIDELINES**

Figure 2 is a matrix resulting from the Task 5a (Evaluation of Part V Guidelines) and an index to more detailed comments provided in Part Two, section 2.2. Task 5b (Evaluation of Organizational Relocation Plan) is not reflected in summary matrix form since it is subordinate to 5a and would merely repeat many comments.

SUBJECT AREA	ACCURACY OF GUIDELINES	ADEQUACY WITH REGARD TO LEVEL OF DETAIL	CLARITY OF THE INSTRUCTIONS	CONSISTENCY THROUGHOUT GUIDELINES	DEGREE (CORRECT) OF EMPHASIS	COVERAGE (ANY)
ACQUIRING AND ORGN PLANNING MATERIALS	●	◐	◐	*	○	○
DATA GATHERING	●	●	◐	*	◐	○
EMPLOYEE INFORMATION	◐	●	○	○	●	◐
TIMING	●	●	●	*	●	●
TRANSPORTATION	●	●	●	◐	●	○
RELOCATION LOGISTICS	●	●	●	◐	●	●
ADVANCE PARTY	◐	○	○	○	●	○
HOST AREA OPERATIONS	◐	●	●	*	●	○
RISK AREA OPERATIONS	◐	●	◐	○	○	○
ECONOMICS	●	●	●	*	●	●
SOCIAL AND BEHAVIORAL ASPECTS	●	●	●	*	●	●
RETURN	●	●	●	*	●	●
MISCELLANEOUS		SEE DETAILED DISCUSSION SECTION 2.2				

\* WAS NOT EVALUATED BECAUSE SUBJECT AREA APPEARS ONLY ONCE IN GUIDELINES OR NOT AT ALL

○ ADEQUATE

◐ MINOR DEFICIENCY – MINOR REWRITE OR ADDITION NECESSARY ; NO CONFLICT WITH OTHER PORTIONS OF GUIDELINES

● MAJOR DEFICIENCY – MAJOR REWRITE OR ADDITION NECESSARY ; CONFLICT WITH OTHER PORTIONS OF GUIDELINES WHICH NEED RESOLUTION

Figure 2. Summary Matrix

**PART TWO**  
**Main Report**

## 2.0 PART TWO - MAIN REPORT

### 2.1 SUMMARY OF TASKS AND FINAL REVIEW OF TASK ACCOMPLISHMENTS

#### 2.1.1 Task 1--Program Planning and Control

Task 1 primarily covered the preparation of a Work Plan, which described the Boeing approach to accomplishing the other seven contract tasks. The Work Plan was essentially an expanded version of the Boeing proposal, refined and detailed to ensure completion of all statement-of-work tasks within time and cost constraints.

Task 1 also provided a general management system.

#### Methodology

Task 1 reflects the coordination of efforts by the various task leaders to whom elements of Task 1 were assigned. Each task leader wrote the methodology, at the task level, to be used on the element(s) assigned to him. The task of each write-up was supported by appropriate flow charts and by formats or outlines of task products. Together, the project team estimated the time needed for various elements of work. A detailed overall flow was constructed from which a consolidated project schedule prepared. Next, the task leaders estimated manpower needs and the team jointly decided how to fulfill these requirements. After review a specific allowance for each task was established and a budget set up .

Task 1 was the first activity performed under Contract DCPA-01-79-C-0218. Based on an authorizing letter from DCPA, Boeing began to prepare the Work Plan on January 8, 1979, while contract negotiations were still in progress. A review of the plan was completed at the first oral presentation which was also the initiation conference.

Boeing finished the Work Plan on February 9 and presented on February 13, marking the completion of Task 1. DCPA acknowledged the presentation and the Work Plan by letter dated February 15, 1979.

#### Relationship to Other Tasks

The Work Plan was prerequisite to beginning any of the other contract tasks. It defined for each task the methods, responsibilities, schedules, and budgets to be applied. Tasks 2, 5, 6, and 7 commenced concurrent with the completion of Task 1. Internal control systems for costs, schedules, and configuration were set up to track performance.

#### 2.1.2 Task 2--Data Collection

##### Task Content

Task 2 was accomplished in two parts. The first part was the acquisition of materials and data for inclusion in the prototype ORP (Task 3). The second was the analysis of these materials and data.

##### Methodology

The guidelines contained in Part V are based on the assumption that Federal, State, and local CRP's have been developed. This is, of course, not the case for this project. Therefore, DCPA Region 8 was contacted, and with the concurrence of that agency the CRP elements needed to develop a realistic ORP were synthesized by the project team. Included in the synthesized information were the definition of the risk area boundaries and the identification of Yakima and Enumclaw as host areas.

Task 2 was scheduled to be performed between February 5 and March 30. Preliminary efforts commenced with the briefing of functional executives designated to provide data for the draft ORP. The Boeing Space Center was previously selected as the prototype "organization," and information from Space Center operating organizations was obtained through specialists who were oriented to the project's objectives and provided with necessary information including exact descriptions of the support required.

Obtaining representative employee information was not easy. With the assistance of a team of statistical specialists, a questionnaire was designed to acquire data and individual employee opinions concerning the ORP concept.

Some difficulty was encountered in obtaining approval to conduct the survey, due to recently increasing concern for the protection of the privacy of individuals. This was seen as a potential barrier to future acceptance of the ORP concept by some organizations. It could also entail substantial expense to participating companies who, through caution, might consider legal review of the questionnaire a prerequisite to its distribution.

The questionnaire was distributed to 472 randomly selected employees, of whom 379 (81 percent) responded. This response, approximately double what had been predicted by the statistical specialists, was the subject of much discussion and was featured in the Boeing News, a company newspaper.

Analysis of Task 2 data was accomplished in minimum time. The resulting profile of a typical Boeing Space Center employee revealed patterns of household size, area of residence, number of automobiles, and other pertinent particulars. In this study, the postal zip code was found to be adequate as a geographic area locator for planning purposes, although some other device might prove more useful in another locality.

The Project Manager and the Industrial Planner visited one of the host area communities identified. They concluded that the community facilities were adequate to support the planned Space Center population to be relocated.

#### Relationship to Other Tasks

The requirements identified in Task 1 for the accomplishment of Task 3 determined, to a significant degree, the criteria governing Task 2; and these were adequately recognized in the guidelines. Other contract tasks were only incidentally related to Task 2.

### 2.1.3 Task 3--Draft Organizational Relocation Plan (ORP)

#### Task Content

Task 3 covers the preparation of a draft prototype ORP to test the usefulness of the Part V guidelines under realistic conditions. The draft includes an introduction spanning the historical background of civil defense from post-WWII shelters to the current crisis relocation concept; the organization relocation plan itself, includes a policy statement, preparedness procedures, details of relocation, sustaining operations at the facility, a checklist of essential activities at the time of a threatened crisis, a list of responsibilities, and detailed attachments to the draft plan.

#### Methodology

After the Work Plan had been established (Task 1) and the necessary data had been accumulated (Task 2), segments of Task 3 were assigned to various sub-task leaders, who then proceeded with the drafting of their respective portions of the ORP. These drafts were patterned closely after the suggested guidelines in Part V, Guide for Crisis Relocation Contingency Planning. Finally, the separate segments of the draft were organized, edited, and rewritten as necessary by a consulting a communications specialist in order to achieve balance, stylistic consistency, emphasis, and clarity.

The Boeing Space Center at Kent, Washington was used as the prototype site, and in many respects this location proved ideal for the purpose. However, the Space Center is not a single "organization" within the meaning of that term as used in the guidelines but rather a collection of collocated elements of several Boeing companies. Nevertheless, to make the ORP correspond satisfactorily to the guidelines, it was necessary to assume that the Kent site was a single entity.

## Relationship to Other Tasks

Task 1 described the ORP concept and outlined the desired contents to be included in the plan. Task 2 collected the data to be used in Task 3. Task 4 called for the review of the draft ORP (Task 3) within Boeing and by four non-Boeing organizations.

### 2.1.4 Task 4--Review of Draft ORP Activities

#### Task Content

This task consisted of an in-house and an external review of the draft organizational relocation plan. Criticisms, comments, and suggestions were solicited and recorded. The end result of Task 4 is a compilation of meeting minutes containing review comments, and this compilation is attached to the draft ORP.

There were three main purposes of Task 4. First, it was to elicit an internal corporate review that would be basically the same as any typical management review and approval procedure. Second, the draft ORP was to be subjected to the scrutiny of agencies outside the company that would have an important perspective or interest in the OR process. And third, the results of these reviews were to be fed back into an evaluation process for systematic analysis and evaluation of the practicality of the draft ORP.

#### Methodology

Task 4 consisted largely of a series of meetings. The Senior Management Council was scheduled to review the project and simulate a management approval process. The meetings with agencies outside the company (with the exception of FEMA Headquarters) were conducted in two stages. The initial meeting was conducted to present the document and briefly explain its purpose and content. At that time a followup meeting was scheduled to collect the comments and complete the review cycle. Because of time and travel constraints, FEMA Headquarters submitted its comments in writing.



The following is the schedule of agencies and meetings.

<u>Reviewing Agency</u>	<u>Initial Review</u>	<u>Final Review</u>
Senior Management Council	July 17	Aug. 8
King County Labor Council	July 20	Aug. 22
FEMA Region 10	July 23	Aug. 24
Department of Emergency Services	Aug. 3	Aug. 22
FEMA Headquarters	Aug. 17	written review

#### Relationship to Other Tasks

Task 4 related to two other tasks. These were Task 3, preparing the draft ORP that Task 4 was to review, and Task 5B, the formal evaluation of the draft ORP once the Task 4 review was complete.

#### 2.1.5 Task 5--Evaluation of Part V Guidelines and Draft ORP

Task 5, the chief focus of the project, was divided into two parallel subtasks: evaluation of the Part V guidelines (Task 5A) and evaluation of the draft ORP (Task 5B). The two subtasks are separately discussed below.

#### Task Content and Conclusion (Task 5A)

Task 5A consisted of evaluating the Part V guidelines. In evaluating Part V the question was asked: Can the guidelines be followed to develop a real plan (i.e., one that could be implemented and made to function successfully)? The answer, resulting from Task 5A, is yes, provided some adjustments are made and some

adjustments are made and some missing elements are added. The recommended adjustments are detailed in Section 2.2.2. The elements that need to be added are shown as shaded boxes in Figure 3. The unshaded boxes represent elements as taken from the guidelines.

#### Methodology (Task 5A)

The methodology used to evaluate Part V was the actual use of these guidelines in developing a prototype organizational relocation plan for the Boeing Space Center, followed by the careful monitoring and documentation of all aspects relating to the guidelines during the developmental process.

Comments regarding adequacy, simplicity, and practicality of the guidelines were actively solicited from the inception of the project. Written reports detailing comments from outside sources as well as from project members were submitted weekly. These reports were scrutinized for validity by a Systems Analyst, then collated into the categories shown in Figure 5. In addition, an independent, detailed critique of guidelines was accomplished by a Systems Analyst through a paragraph-by-paragraph review.

#### Relationship to Other Tasks (Task 5A)

Task 5A is directly related to Tasks 2, 3, 6, and 8, as shown below.

- Task 2     Data collection specified by the guidelines was carried out under Task 2. The evaluation of this data collection process was performed in Task 5A.
- Task 3     Task 5A utilized the Task 3 development of a prototype ORP as the main object of evaluation.
- Task 6     Flow diagrams generated in Task 5A were used for making comparisons in Task 6 (evaluation of adaptability of ORP to other crisis scenarios).

## ORP Preparation Flow

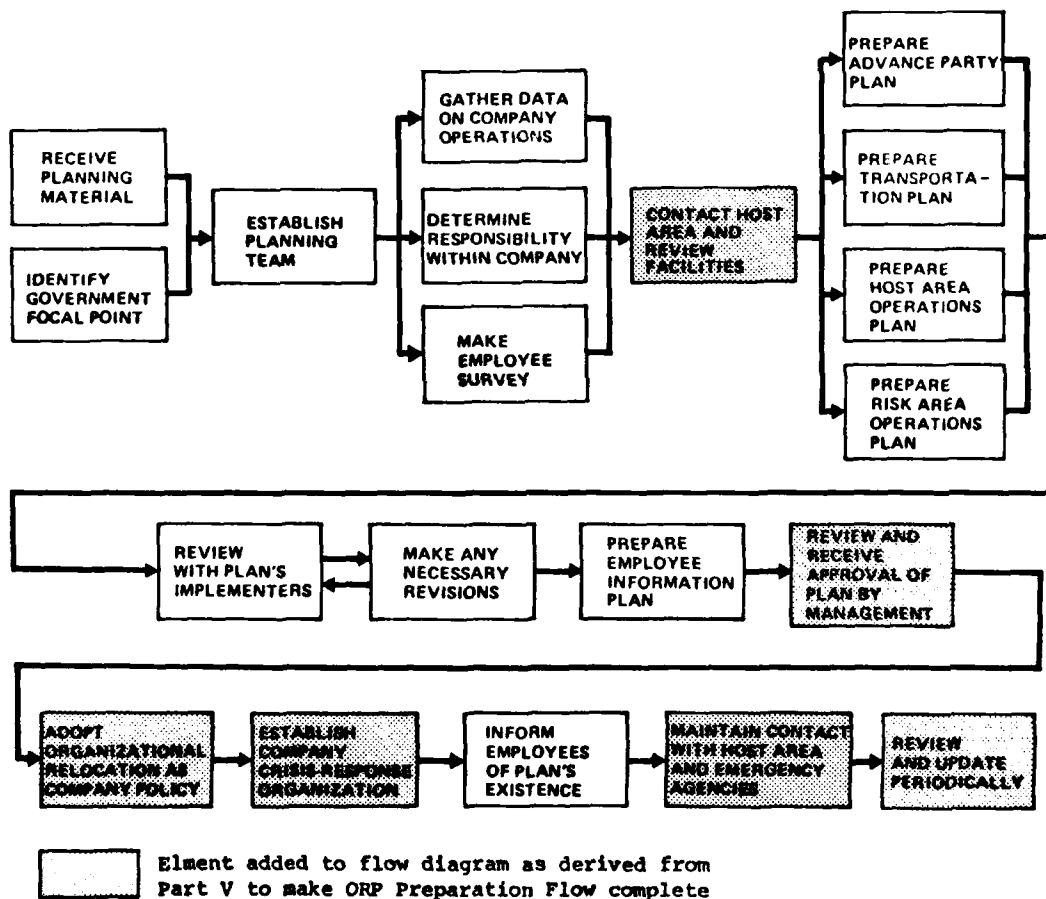


Figure 3. ORP Preparation Flow

Task 8 The results of Task 5A evaluations are documented in this final report (Task 8).

#### Task Content and Conclusion (Task 5B)

Task 5B consisted of evaluating the ORP as patterned after the Part V guidelines. As in Task 5A, the ORP evaluation (Task 5B) attempted to answer a question: Is the plan practical? The conclusion was that the ORP, is practical; however, a number of improvements are recommended as detailed in Section 2.3.2.

#### Methodology (Task 5B)

The methodology employed to evaluate the draft ORP was similar to that used to evaluate the Part V guidelines. Immediately upon completion of the ORP, comments were solicited from project personnel, the Boeing Senior Management Council, and four outside agencies. Written reports by project personnel were scheduled to document all of these comments, which were channeled to a Systems Analyst. The Systems Analyst determined the validity of these reported comments, added his own, and categorized all legitimate comments regarding the draft ORP.

#### Relationship to Other Tasks (Task 5B)

Task 5B is directly related to Tasks 2, 3, 4, 5A, and 8, as shown below.

Task 2 The ORP evaluated in Task 5B drew on data acquired under Task 2.

Task 3 The ORP evaluated in Task 5B was developed under Task 3.

Task 4 Results of the ORP review (Task 4) were used in the evaluation of the draft ORP (Task 5B)

Task 5A Task 5B ORP deficiencies were checked against Task 5A guideline deficiencies to determine the origin of the fault--the guidelines or poor planning.

Task 8     The results of the Task 5B evaluations are documented in this final report (Task 8).

#### 2.1.6 Task 6--Adaptability to Other Crisis Scenarios

##### Task Content

Task 6 involved an analysis of the adaptability of the Part V guidelines to the planning required for three other types of crises, specifically a major flood, a major earthquake, and an act of nuclear terrorism. Detailed scenarios depicting these hypothetical events and the results of the adaptability assessment are contained in Section 2.4.

##### Methodology

Scenarios were written detailing each type of crisis mentioned above. These scenarios described situations considered to have the potential of actually occurring and affecting the Boeing Space Center, its personnel, and its operations. The scenarios were purposely designed to depict extreme cases, with the assumption that planning for such major occurrences would automatically be sufficient to accommodate most lesser ones.

Each scenario provided two basic functions. First, it served as a relatively complete case that could be checked in detail for planning element requirements. Second, it provided a framework on which an extensive system of modifications could be applied to check for additional requirements.

Once the scenarios and their modifications had been studied for planning requirements, these requirements were compared with the ORP preparation flow diagram, as derived from the Part V guidelines and modified in Figure 3. A determination was then made as to which of the planning element requirements could be accommodated by the Part V guidelines and which could not. The results of these comparisons are contained in Section 2.4.

## Relationship to Other Tasks

Task 6 is directly related to Tasks 5 and 8. The ORP preparation flow diagram used for comparison in Task 6 was developed under Task 5, and the results of the Task 6 analyses are documented in the Task 8 final report (this document).

### 2.1.7 Task 7--Technical Assistance

#### Task Content

Task 7 covers technical assistance and consists of six work items:

- Item A Conduct liaison and informational exchanges with other groups interested in ORP
- Item B Identify prerequisites to ORP
- Item C Prepare simulated CRP material
- Item D Collect civil defense planning data from Switzerland, Sweden, and Norway
- Item E Prepare a flow chart for U.S. civil defense
- Item F Convene, conduct, and support a symposium

Each of these items will be discussed separately in the following sections.

#### Methodology

##### Item A

Boeing has scheduled and conducted informational briefings, in addition to attendance at certain emergency planning and training activities:

<u>Topic</u>	<u>Date</u>	<u>Location</u>	<u>Audience</u>
Oral Presentation of Work Plan	2-13-79	Arlington, Virginia	DCPA Research and Engineering
Progress of Reloc- ation Planning	3-6-79	Seattle, Washington	Wash. State DES Management
Relocation Plan for BCS	3-7-79	Kent, Washington	Senior Management Council
Gen. Briefing, ORP	3-12-79	Bothell, Washington	DCPA, Region 8 Management
CRP Host Area Tabletop Exercise	3-15-79	Moscow, Idaho	Host Area Government
Progress of ORP	4-26-79	Kent, Washington	Regional Emergency Transportation Coord.
Early Version: Model ORP	5-4-79	Kent, Washington	Open Review
Contractor Symposium	6-28-79	Seattle	DCPA Contractors
Gen. ORP Briefing	7-17-79	Battle Creek, Michigan	FEMA Staff College
80% Review	8-14-79	Pentagon	FEMA
Task 4 Interchange	8-22-79	Seattle, Labor Temple	King County Labor Council

<u>Topic</u>	<u>Date</u>	<u>Location</u>	<u>Audience</u>
Emergency Preparedness Conference	9-20-79	Winston-Salem, No. Carolina	Business and Industry
Gen. ORP Briefing	9-25-79	Seattle, Washington	Naval Reserve Training Command
Spokane Risk Area NCP Tabletop Exercise	9-27-79	Spokane, Washington	City & County of Spokane
Emergency Planning	9-27-79	Bellingham, Washington	State Director of Civil Preparedness
Labor Liaison Briefing	10-9-79	Seattle, Washington	King Co. Labor Council, FEMA
Emergency Transportation Conference	10-12-79	Seattle, Washington	DOT Region 10

The informational exchange meetings covered under this work item include the following agencies:

FEMA Region 10  
Washington State Department of Emergency Services  
King County Labor Council  
Battelle Human Affairs Research Centers  
North Carolina Division of Civil Preparedness

#### Item B

A Systems Analyst studied pertinent aspects and issues associated with ORP development to identify requirements for supporting data and activities. The resulting chart (Figure 13) illustrates the actions and data required and demonstrates the sequence in which these must occur to support logical development of the ORP.



Item C

CRP information, including host area assignments and essential industry designation, was simulated by the Industrial Planner, who formulated a set of ground rules based on a series of logical assumptions. These were reviewed with DCPA Region 8 (now FEMA Region 10) and then used in Task 3 as part of the data base for ORP development.

Item D

As an adjunct to an unrelated trip to Europe, the Boeing Program Manager conducted meetings with civil defense representatives in Switzerland, Sweden, and Norway. These representatives, who were found to be extremely knowledgeable, willingly shared and exchanged ideas and data. A series of questions and answers were developed in matrix form, and these were used as reference material in ORP development later.

Item E

Responsibility for development of a flow chart depicting civil defense in the United States has been assigned to the Systems Analyst, who is currently reviewing and analyzing data to construct a framework to accommodate U.S. functions and relationships. When a draft is complete, it will be reviewed with various members of the civil defense technical community prior to submittal.

Item F

A DCPA research contractors' symposium was conducted in Seattle on June 28 and 29, 1979. Representatives of two dozen Government, academic, research, and industrial agencies participated in group discussions and data interchanges. Five major subjects were covered by dividing the group into study teams. These were:

Industrial protection programs  
Population reception and care

Training and systems outreach  
Three Mile Island case study  
Public and industrial motivation

Minutes from each study group were collated and distributed.

Several problems were encountered in the performance of Task 7. For example, the necessity of preparing simulated CRP data was troublesome, because CRP data, by its nature, is so basic to plan development that the use of simulated data tended to reduce the credibility of the ORP. Also, the use of a real host area in an otherwise hypothetical case tended to lock the study in on what might not be a realistic situation. Admitting that the data was reviewed by FEMA Region 10, Boeing nevertheless would have had greater confidence in a plan developed from a Seattle CRP.

#### 2.1.8 Task 8--Reports

##### Task Content

Task 8 included four written quarterly reports, three oral presentations, and a written final report (this document). The final report consists of three parts:

Part One--An executive summary, briefly describing the planning process, observations, and conclusions.

Part Two--The main body of the report, consisting of a summary and final review of tasks, evaluation of Part V guidelines, evaluation of the draft ORP, evaluation of adaptability of guidelines to other crisis scenarios, and recommended Phase II activities.

Part Three--Draft ORP with review comments.

##### Methodology

The principal activity covered by Task 8 was the writing of the final report. This was accomplished by assigning to various project specialists

the drafting of report segments covering topics within their spheres of responsibility, then subjecting the overall report to editing and rewrite, as necessary, by a consulting communications specialist to ensure consistency. The quarterly reports were developed from weekly status reports.

#### Relationship to Other Tasks

The Task 8 final report is the repository of the other contract tasks with the exception of some elements of Task 7, Technical Assistance. In addition, the quarterly reports under Task 8 drew on the weekly status reports covering the progress of the various contract tasks.

Figure 4 graphically depicts the interrelationships of all contract tasks.

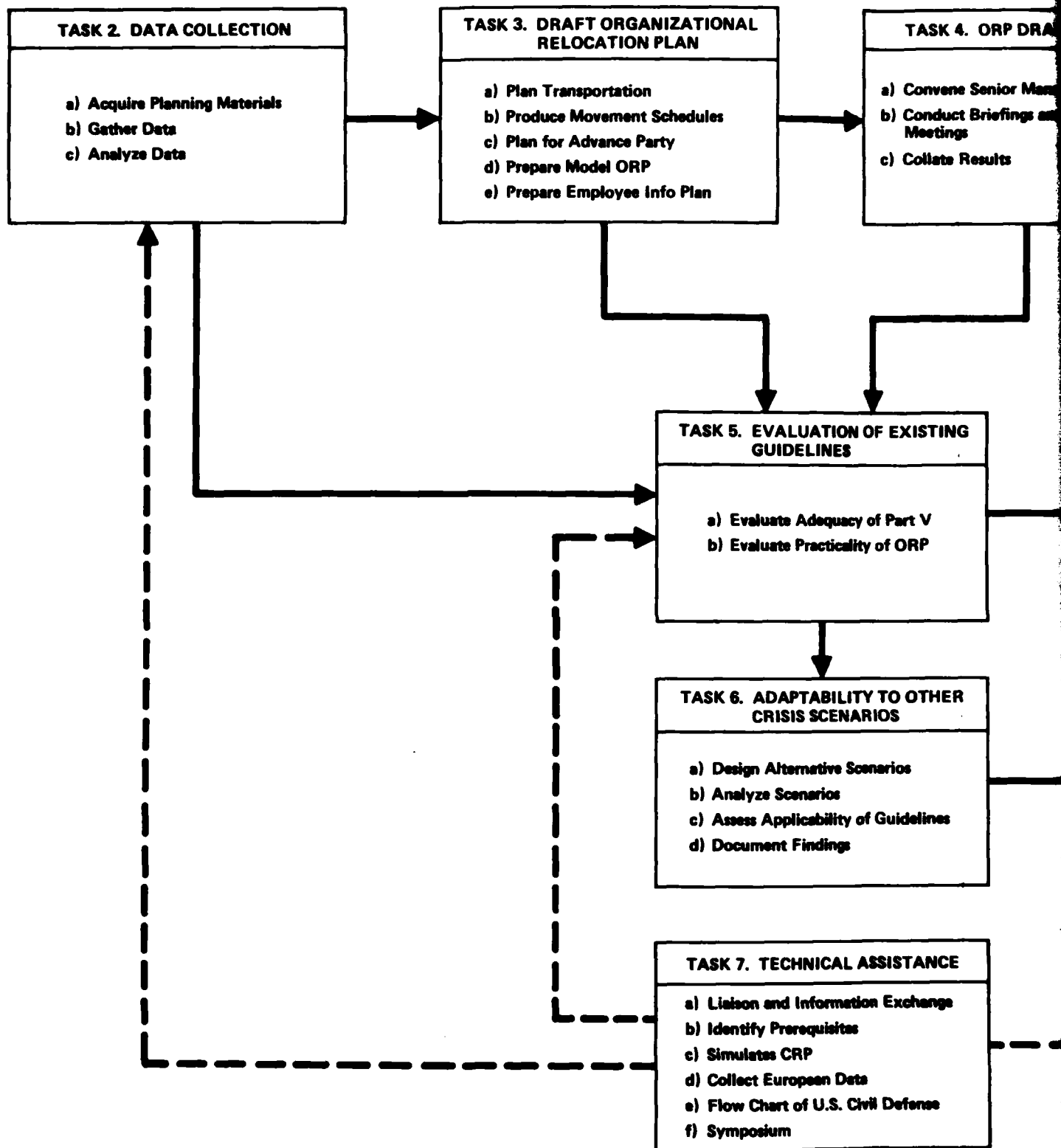
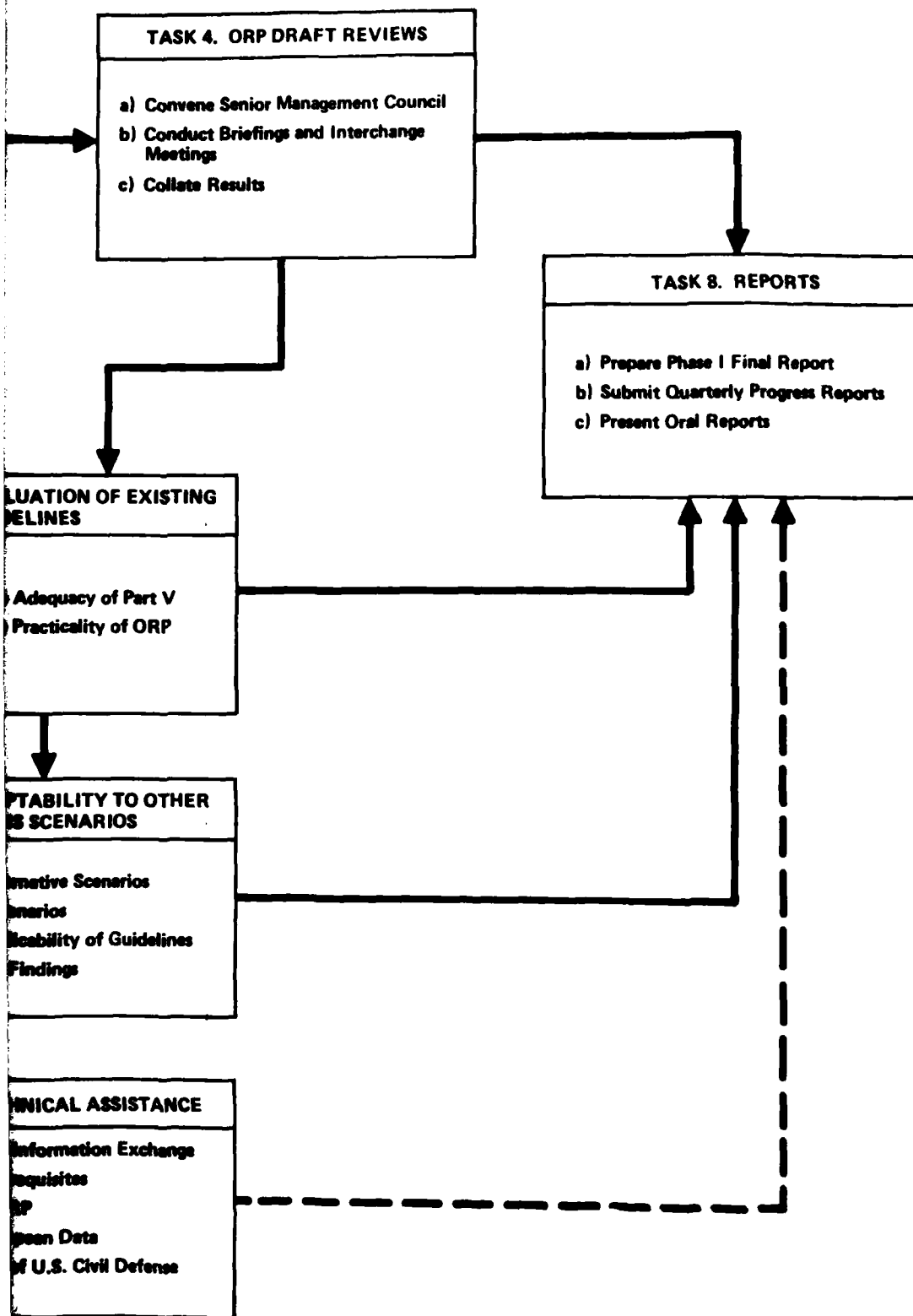


Figure 4. Overall Work Flow Diagram



## 2.2 EVALUATION OF PART V GUIDELINES (TASK 5A)

### 2.2.1 Explanation of Evaluation Process

Section 2.1.5 details the methodology used to evaluate the Part V guidelines. Section IV of the guidelines, "Institutions," was not included in the evaluation because it deals with organizations whose staffs provide care to others (hospitals, nursing homes, etc.,) whose staffs are responsible for others (colleges, orphanages, etc.,) or whose staffs maintain custody over others (such as correctional institutions). Relocation of these types of organizations involves consideration of their wards or charges as well as their staff and thus requires information and experience to analyze which is not available first-hand at the Boeing Kent Space Center.

### 2.2.2 Specific Evaluations by Subject Category

Specific evaluations of the Part V guidelines by subject category are shown in matrix form in Figure 5. The number of categories has been reduced considerably from the initial listing generated early in the project due to consolidation. Not all categories listed have comments accompanying them. This is because a common set of categorical listings was used for Figure 5 and Figure 6, the latter figure containing specific evaluations of the ORP; but comments were often forthcoming in only one instance. Figure 5 contains five columns. The first column, "Category," identifies the subject area which is being evaluated. Column two references the page number(s) of the Part V guidelines, when applicable, to which the evaluation pertains. Column three contains the "Comment" which leads to the "Problem" explained in column four. Column five, "Recommendation," presents a recommended action for correcting the problem.

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
1. ACQUIRING AND ORGANIZING PLANNING MATERIAL				
A. Crisis Relocation Plan	25	The last paragraph of page 25 states, "The planning process outlined in this guide will not require many man-hours of effort nor need the effort be continuous. In most sizable organizations, a special assistant or one or more competent individuals from the safety, security, or personnel staff can accomplish what is needed with periodic attention over a one or two month interval,...."	This understates the effort that would be required for a large, complex organization to produce a workable ORP. With many functions, operations, organizational subentities, and locations involved, a large organization would require more staffing effort than "a one or two month interval" by "one or more competent individuals." Staffing per existing guidelines would result in an inadequate ORP or overruns or both.	In the final release of Part V, recognize the disparity of planning effort between large and small organizations and include a more realistic estimate of the effort required for large organizations to arrive at a workable plan.
B. Organizational Assignment Form	14	As exhibited on page 14, the OAF form does not bear the printed form name, "Organizational Assignment Form."	The guidelines reference the Organizational Assignment Form in numerous places. Since the OAF is to be provided to the organization, it should contain self-identification to avoid confusion.	Print the words "ORGANIZATIONAL ASSIGNMENT FORM" on the OAF.
	15, 17, 22, 47	Reference is made on pages 15, 17, 22 and 47 to "the reverse side of the master sheet" of the OAF. Only the front side of this master sheet is exhibited (page 14).	Instructions on pages 15, 17, 22 and 47 may not be clearly understood.	Exhibit both sides of OAF master sheet.
C. Government Contact/Coordination	--	In numerous places the guidelines stress the importance of communication between the organization preparing an ORP and the "local civil preparedness coordinator."	Although Part V was only a concept at the time of this evaluation, there is at present no assurance that any organization will provide this function. The guidelines do not specify whether the coordinator is from the local, state or federal government.	Define the level of government to which the "local civil preparedness coordinator" is attached.  In disseminating the finalized Part V guidelines, mention by name, title, address, and phone number the "local civil preparedness coordinator." This information can be included in the cover letter with document.

Figure 5 Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
11. DATA GATHERING				
A. Host Area	20-23, 77-81	Guideline pages 20-23 and 77-81 discuss preparation of an ORP using the information provided to the ORP planner that was compiled by the government planning team. No mention is given to direct or continuing contact between the ORP planner and Advance Party members on one hand and host area officials on the other.	Unless both parties have established and maintained a healthy working relationship and preparedness for crisis conditions, the stresses of an emergency would likely cause delays, misunderstandings, foul-ups and hostilities.	The guidelines should stress the importance of direct and continuing contact between relocating organizations and their host area officials. Guidelines should also suggest "dry runs" by the person(s) responsible for preparation and maintenance of the plan and Advance Party members, using the designated evacuation route and visiting assigned facilities along with meeting their host area contacts.
B. Employees	34	No assurance about the legality of the relocation questionnaire (page 34) is given in the guidelines.	The organization planning its ORP may question the legality of asking employees the type of questions found in the example on page 34. There is a general knowledge of the existence of laws such as the Privacy Act and the Federal Reports Act but little knowledge of their intricacies. The time taken to confirm that the questionnaire is legal would unnecessarily add time and expense to the planning process.	The questionnaire should be cleared as legal, and the guidelines should so state and emphasize that it must be used verbatim to avoid legal difficulties.
	34, 37	The Relocation Questionnaire (page 34) and the Planning Worksheet (page 37) do not provide for situations in which a member of a household may be a member of an emergency organization such as police reserve or volunteer fire department.	Since members of emergency organizations may be relocating with their emergency function, estimates of personnel to be relocated with a particular organization could be distorted.	Add "k. A law enforcement agency" and "l. A fire department" to item 6 of the Relocation Questionnaire on page 34.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category



# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
III. EMPLOYEE INFORMATION	50-57	The subsection on Preparing the plan (pages 50-57) does not fully cover the necessary preparations for evacuating a household - no mention is made about what to do with pets. (In a survey of Boeing employees concerning civil preparedness, more write-in comments were received concerning pets than any other subject.)	Unless the guidelines satisfactorily cover the topic of pets, with which many people are deeply concerned, support for the relocation plan may be seriously diminished.	Specifically mention "what to do with pets" in the revised guidelines.
IV. TIMING	--	Organization-employee communications prior to relocation is considered only to take place at the work site. Nothing is said in the guidelines about what to do in the event the relocation order occurs at a time when the organization's employees are not at work.	Should a crisis situation requiring relocation develop during a time when the organization is not working, there is no provision for employee communication. For example, if a relocation were required over the Christmas holidays, contact would be difficult for the many organizations that close down during this period.	Expand the guidelines to provide suggestions to planners on how to maintain communications regardless of the organization's operating status.
V. TRANSPORTATION	40	The next to last paragraph on page 40 states, "The entry in column 9 of the work sheet is the number of persons in the household (column 5) whenever the entry in column 6 shows at least one automobile." This methodology is wrong. To paraphrase this statement is says, "all members of a household will have transport to the host area if that household has at least one automobile." That is erroneous because there may well be households that do not have sufficient transport to carry all its members simultaneously.	The number of people shown to need transportation may be understated.	Change guidelines to account for the number of passengers the household automobiles can carry, not just the number of automobiles it possesses.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
B. Requirements — Equipment	78	Approximately centerpage on page 78 the guidelines state, "Some mobile equipment, such as fire engines, is not designed for distance travel."	This statement is not true and could cause some planners to tie up valuable transport equipment hauling fire engines when they could be self-transported. Fire engines can and do travel long distances. In fact, fire engines manufactured in the East and Midwest are typically self-transported to customers in western states.	Remove the phrase, "such as fire engines," from the passage quoted.
C. Resources — Company		(No comments)		
D. Resources — Private		(No comments)		
E. Allocation — Resources/ Requirements	32, 33, C-7, C-8	<p>There is a contradiction between the text (pages 32 and 33) and Appendix C (pages C-7 and C-8) with respect to the transportation mode order of preference for employees and dependents without automobiles:</p> <p>Text (pp. 32, 33)</p> <ol style="list-style-type: none"> <li>1. Ride sharing</li> <li>2. Organizational Transport</li> <li>3. Local government</li> </ol> <p>Checklist (pp. C-7, C-8)</p> <ol style="list-style-type: none"> <li>1. Organizational transportation (See items 3-5)</li> <li>2. Ride sharing (item 6)</li> <li>3. Local government (item 9)</li> </ol> <p>Note that items 1 and 2 are interchanged on the two lists.</p>	<p>Unless the text and the checklist agree, some planners may follow one and some the other. Confusion will also occur. If the checklist order of preference is followed, there will be a serious impact on the availability of organizational vehicles for other purposes, such as transporting resources needed for rebuilding in the event of an attack, as discussed on page 55 of the guidelines.</p>	<p>Rewrite Checklist V-D., pages C-7 and C-8, to conform to the order of preference outlined in the text, pages 32 and 33. Also retitile Checklist V-D.: "PLANNING TRANSPORTATION FOR EMPLOYEES WITHOUT AUTOMOBILES" to avoid the inference that this checklist is to be used for all relocation planning</p>

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
E. Allocation- Resources/ Requirements (Cont'd)	32, 36, 43	The guidelines well recognize the need and importance for making last-minute ride sharing arrangements to the host area (see last complete sentence on page 32, second paragraph on page 36, and first sentence on page 43). However, they do not contain details on how a ridesharing scheme should be set up to work. Ridesharing schemes are not necessarily simple, nor are they could probably employ a basic scheme with several variations.	Without specific guidance, ORP planners would spend considerable time arriving at a ridesharing plan without the benefit of others' thinking on the problem.... thinking which might provide a better plan.	Include some basic details in the guidelines on how a ridesharing scheme might be set up to work.
F. Other	55	In the context of what management should take with the relocating organization to the host area, page 55 discusses the problem of rebuilding "our damaged society" in the event a war should occur. However, the only example provided is the organization's vital records.	Other organizational resources capable of being relocated and essential to the rebuilding process may be overlooked unless specifically noted in the guidelines.	Specify other examples to assist the planner.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
VI. RELOCATION LOGISTICS				
A. Scheduling	44	The "orderly movement" concept seems to impose a penalty on those evacuees who are participating in an organizational relocation. Page 44, second paragraph, second sentence states, "Most organizational households would be scheduled to start to leave after the estimated time required for unattached households to leave, thus avoiding the big traffic tie-ups."	If employees perceive this arrangement as a means of regulating the traffic volume at their expense, there may be a tendency, under the stress of a real emergency, for large numbers to abandon the ORP and join in the general exodus.	Rewrite the guidelines to provide detailed convincing explanations as to why the delayed departure of relocating organizations is in the best interests of participants. Include these explanations in the Employee Information Plan.
B. Routing	--	The guidelines only make brief mention that food will be supplied to the host area. The availability of food in the host area is of major importance to the success of relocation.	If employees are not convinced that food will be available in the host area, they may be reluctant to participate in the ORP. This requires the ORP planner to be assured of food availability so the assurance can be passed along to the employees.	Include in guidelines mention governmental planning to assure a food supply, and emphasize that this assurance should be conveyed to employees in the Employee Information Plan.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
VII. ADVANCE PARTY	49	The second paragraph on page 49 states, "The common practice is to specify the members of the advance party by position or job title to avoid updating problems as personnel change."	This statement is not true. There is probably not an ORP advance party in existence in the entire United States, so there is currently no "common practice."	Change the word "common" in the referenced statement to "recommended."
VIII. HOST AREA OPERATIONS				
A. Shelters:		(No comments)		
B. Authority:	--	The guidelines do not explain where the authoritarian lines of the host officials and the relocated organization are drawn in the host area once relocation has been implemented.	When an organization relocates to the host area, it must be known to both host area officials and the organization what areas and what level of authority each possesses. The ORP planner needs an understanding of authority when interfacing with the host area and assigning tasks in the ORP. Failure to have a common understanding of the authoritarian lines could lead to confusion and a breakdown in cooperation.	Describe in the guidelines the authority to be held by the organization and host officials in the host area if a relocation was implemented.
C. Other		(No comments)		

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	DEF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
IX. RISK AREA OPERATIONS				
A. Tactical Evacuation	73, 75	For the protection of risk area workers the guidelines state, "plans have been laid to provide the best protection possible at the operating sites." (page 73) and "Plans for protecting risk area workers are the responsibility of the government and are summarized in the risk area CRP." (page 75.) All-effects shelters and tactical evacuation are given as the two kinds of protection.	The ORP planner needs to know if all-effects shelters are available to the risk area workers or if only tactical evacuation will be used. Since the guidelines are generalized for all industry, they lack the specifics for any one company.	As an attachment to the guidelines provide all-effects shelter information and tactical evacuation routes for the organization receiving the guidelines. A reference to such an attachment should be included in the text.
C. Support		(No comments)		
D. Other	55	The Part V guidelines do not cover procedures for the protection of buildings and industrial equipment within the risk area, although the guidelines say (on page 55) "...there will be generated a great effort to rebuild our damaged society. Your organization will be in a position to contribute if it has thought out what it would need for this purpose."	The context of this quote has to do with the choice by management of what to take along to the host area in order to contribute to post-attack rebuilding; however, a major facet of the concept of "rebuilding a damaged society" involves the preservation of resources in place by the use of industrial protection techniques. Many companies potentially capable of making the greatest contributions toward rebuilding could only do so through protection of their stationary resources.	In recognition of the fact that the most critical industrial assets are not easily transportable, the guidelines should encourage participating organizations to establish an industrial protection capability to be implemented in the event of a threatened nuclear attack.
X. ECONOMICS	9	The discussion on page 9 concerning the economic impact of crisis relocation and the prospect of governmental action to relieve such problems is too superficial in its treatment of financial liability to satisfy organizations.	Organizations would not be willing to undertake relocation plans unless they knew and were satisfied with the liability aspects of undergoing a relocation. Questions such as, "Will the employees be paid during relocation; and if so, by whom?" would have to be answered.	The guidelines should provide information that will enable organizations to address the question of financial liability forthrightly and in detail.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
XI. SOCIAL/BEHAVIORAL/ PUBLIC RELATIONS ASPECTS	6, 7, 28, 77-81	On pages 6, 7, 28 and 77-81 there is extensive discussion of key employees engaged in essential activities who are to remain in the risk area during working hours while the evacuation order is in effect.	This concept poses certain psychological and motivational problems. Some "key employees," such as policemen and firemen, can be expected to understand and accept this arrangement; others may not. Conversely, some employees who are ordered to relocate may wonder about the necessity for such an inconvenience when they see others, seemingly much like themselves, remaining in the risk area.	The guidelines should give instructions on how to meet this problem forcefully and convincingly in the sections titled Information to the Public (page 84) and Information to Employees (page 86).
	--	Success of organizational relocation will depend on a broad base of acceptance by employees. The Part V guidelines make no mention of the role of unions in relocation planning and implementation.	Some unions will demand a major part in the planning of the ORP so that it will not appear that the company is more concerned than the union with the safety of employees. Also, some employees will be more inclined to trust the union than the company.	Include in the guidelines instructions for involving unions as major participants in the relocation.
XII. RETURN	--	The guidelines provide no guidance on the subject of return -- disevacuation.	Without preparations for return, such a movement would be chaotic -- especially considering the variety of situations and environments that could exist.	Include return guidance in the guidelines to include the numerous conditions under which a return may have to be conducted.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
XIII. MISCELLANEOUS	--	The guidelines reflect a general lack of rigorous organization and cohesiveness that is characteristic of many preliminary drafts. Examples are the recurrent treatment of subtopics under various headings, disproportionate development of some topics in relation to their importance, and reader difficulty in locating specific information.	Readers (and planners in particular) will experience difficulty in adhering to the guidelines due to lack of systematic presentation of information and will waste considerable time.	Addition of the following features to the guidelines will greatly enhance their clarity and readability: a) Lists of forms, references and materials needed in preparing an ORP. b) An index. c) A list of acronyms and abbreviations, with translations. d) A cross-referencing of each planning checklist entry to applicable text page(s). e) A glossary of terms (many of the civil defense terms used in the guidelines will be new to its users). f) An index to the Guide for Crisis Relocation Contingency Planning, Parts I through V, as an aid to researchers. g) A paragraph numbering system.
	1	Section I, starting on page 1, of the guidelines, "What Crisis Relocation Is All About," deals with a subject of utmost concern to all citizens--the survival of our society--yet it fails to convey a sense of urgency or to present a concise and persuasive set of arguments for the establishment of an Organizational Relocation Plan.	Without a convincing argument, the plan would lack the wide support needed to make it viable. It is important to convince the reader of the seriousness of the potential threat and to establish ORP as a credible concept before proceeding to instructions on how to set up a relocation plan. Civil defense is response to a nuclear threat is an area that is fraught with skepticism on the part of many readers, and the concept proposed is so drastic that it will require compelling exposition of the background (international situation) to convince many people that "this action is necessary."	include in the introduction an explanation and some examples of the types of crises that are possible and would warrant such extreme action as the evacuation of major metropolitan areas.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category



# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
XIII. MISCELLANEOUS (Cont'd)	10, 13, 18-20, 24, 29, 69, 77 and 85	The term "key organization" is used repeatedly in the guidelines (e.g., pages 10, 13, 18-20, 24, 29, 69, 77 and 85) but is never defined. It is not at all apparent as to just what differences it makes if it is "key" or not.	Readers cannot ascertain if they are members of key organizations or not.	Define the term "key organization" and explain the difference in terms of actions to be taken between a key organization and other organizations.
	23, 72-73, 81	The guidelines use the term "Staging Area" to identify two different facilities. On pages 23 and 72-73 "Staging Area" refers to a risk area support facility providing meals, medical aid and general support of risk area operations. On page 81 it refers to a facility in the host area providing services to those traveling to the host area. This use of identical terms is never pointed out to the reader.	Reuse of the "Staging Area" term is confusing.	Either put in a caveat specifically pointing out that "Staging Area" is used to identify two different facilities, or change the name of one of these facilities.
	33	An error appears on page 33. CSP has been used where the correct terminology is CRP.	Misunderstanding/misinterpretation	Change CSP to CRP.
	49	The subject of how the warning to relocate will be conveyed to the organization is a subject which generally receives much interest, but the guidelines deal very little with the accomplishment of the "who" and "how" parts of the warning function. Page 49 of the guidelines states, "The risk area CRP contains arrangements to notify your organization of an impending relocation several hours before the public announcement." This is the extent of the information the guidelines offer in this important subject area.	Current lack of detail on the warning function would create apprehension and skepticism.	Include more information in the guidelines on how the warning function would be accomplished. In particular go into how the organization should be prepared to physically receive the actual warning communication.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

# EVALUATION OF PART V GUIDELINES BY SUBJECT CATEGORY

CATEGORY	REF PT V PAGE NO.	COMMENT	PROBLEM	RECOMMENDATION
XIII. MISCELLANEOUS (Cont'd)	57	Page 57 of the guidelines discusses the approval process when the ORP is completed. The guidelines mention presenting the ORP to the "responsible official" for approval.	Various interpretations have been expressed among those reviewing Part V regarding who this "responsible official" is. Is this official: a) a company official with authority to adopt that plan as the company's plan, b) the person responsible for implementing the plan, or c) a government official?	Rewrite the passage to clarify the term "responsible official."
	--	The guidelines do not mention possible use of employee activity clubs (usually formed in large companies) as resources in planning and implementing a relocation.	To overlook the potential contribution of employee activity clubs would be a waste of these resources and would reduce the sense of employee involvement that otherwise would strengthen the program.	Include mention in the guidelines of possibly using employee clubs such as CB, camping, flying, etc.
	--	Nothing is said in the guidelines about reporting the status of the relocation to concerned governmental officials.	Reliable data on the current conditions of each relocation should be made available to the administration to assist in the formulation of military and negotiating strategy. Without complete and comprehensive reports, responsible officials would have difficulty in making critical decisions.	The guidelines should contain a methodology for monitoring each relocation and regularly reporting status, numbers of participants, movements, problems, etc., to governmental authorities. This data could be used both to relieve crucial relocation problems and to formulate overall policy relative to the international crisis.

Figure 5 (Cont'd) Evaluation of Part V Guidelines by Subject Category

## 2.3 EVALUATION OF ORGANIZATIONAL RELOCATION PLAN (TASK 5B)

### 2.3.1 Explanation of Evaluation Process

Section 2.1.5 details the methodology used to evaluate the ORP. In brief, it consisted of systematically collecting and analyzing comments from the project's members, the Senior Management Council and four outside agencies, who had been given the ORP specifically to comment on.

### 2.3.2 Specific Evaluations by Subject Category

Specific evaluations of the ORP by subject category are shown in matrix form in Figure 6. As mentioned before, the number of categories has been substantially reduced due to consolidation; and not all categories listed have comments accompanying them due to the use of a common set of categorical listings for both Figure 5 and Figure 6.

Figure 6 contains six columns. The first column, "Category," identifies the subject area which is being evaluated. Column two references the page number(s) of the ORP, when applicable, to which the evaluation pertains. Columns three and four contain the "Comment" and the comment's "Source" respectively. Multiple sources are cited for numerous comments.

Five different citations are contained in the "Source" column --Boeing plus the four outside agencies. The following abbreviations are used to identify them:

BOEING -- Boeing Aerospace Company

FEMA HQ -- Federal Emergency Management Agency,  
Headquarters

FEMA X -- Federal Emergency Management Agency, Region Ten

KCLC -- King County Labor Council

WA ST DES -- Washington State Department of Emergency  
Services

Column five, "Problem," explains the problem prompted by the comment; and column six, "Recommendation," presents a recommended action for correcting the problem.

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
I. ACQUIRING AND ORGANIZING PLANNING MATERIAL					
II. DATA GATHERING		(No comments)			
III. EMPLOYEE INFORMATION	B-3	Page B-3 of the Employee Information Plan states to ensure that water faucets are closed rather than to shut off the main water supply valve.	WA ST DES	Water may be an extremely valuable resource in case of a nuclear attack. Just shutting off faucets still leaves many pressurized pipes vulnerable to blast damage and potential water release. Much of this water release could be prevented by closing the main water shutoff valve before relocating.	Change page B-3 of Employee Information Plan to read, "Shut off water at main supply valve."
	A-4 B-2--B-5	Emergency Relocation Registration Forms (page A-4) are given to relocatees when they arrive at the relocation headquarters in Yakima. These forms are turned in for registration at the employee's assigned congregate care facility.	WA ST DES	While driving from relocation headquarters to the congregate care facility, the relocatees will be occupied with following the designated routes and have little or no time to fill out registration forms. This drive covers a relatively short distance and would probably result in the relocatees filling out the forms once they arrived at their congregate care facilities while families go through the registration process.	Include registration forms in the employee information packet (pages B-2 to B-5). Forms can then be filled out while employees are enroute to the host area and have sufficient time to do so.
	--	The plan makes no mention of pets -- a subject which has proven to be of great interest to many people.	BOEING	Unless pets are adequately addressed, many people may withhold their support for the plan.	Provide information for the handling of pets in the plan.

Figure 6 Evaluation of ORP by Subject Category

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
III. EMPLOYEE INFORMATION (Cont'd)	--	Nothing is said in the ORP about climatic differences between the risk area and the host area.	BOEING	Recognizing the physical stresses inherent in a massive relocation, one must expect that there would be a greater-than-ordinary risk of illness due to taking insufficient or improper clothing into a host area with a different and perhaps unfamiliar climate.	The Employee Information Plan described in the ORP should expressly cover appropriate clothing to be taken for different seasons.
IV. TIMING	--	The ORP calls for employees to receive all their relocation information at the plant site and makes no provisions for employee communications if they are not at work.	BOEING FEMA X KCLC WA ST DES	Should an order to relocate occur at an "inopportune time" (while the employees are not at work) there is no established communications procedure to notify employees. This would cause problems at times such as the Christmas holiday, when the plant shuts down for a week, or even weekends.	Make provisions in ORP whereby employee contact can be established regardless of the operating status of the plant.
	--	Based on the CRP guidelines, the ORP has participating employees delaying their departures at least until the second day following an evacuation order.	BOEING KCLC	Given the gravity of the situation, it is unlikely that all employees will adhere to such a schedule. Many may abandon the plan and strike out on their own, either to the host area or to some other destination. If a large proportion of the people for whom the ORP was developed disassociate themselves from the plan, the relocation may be a failure.	The total information program associated with the ORP (initial indoctrination, data-gathering, training, Employee Information releases, etc.) should be geared to "selling" employees on the importance of adhering to the plan.

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
V. TRANSPORTATION					
A. Requirements People/Animals		(No comments)			
B. Requirements Equipment		(No comments)			
C. Resources Company	7	The ORP fails to state the order of transport mode priority for personnel transportation to the host area.	BOEING	Misunderstandings, contradictory instructions, and confusion during an emergency are likely to occur.	Insert in section 2.1, page 7, BOEING AEROSPACE COMPANY POLICY, a paragraph indicating the intended order of preference, as follows: (1) personal automobile for employees and their families; (2) for those who do not own automobiles: (a) prearranged ride-sharing with other employees (b) transportation in company vehicles, and (c) transportation in government vehicles.
D. Resources Private	--	If the preceding item is implemented, reflecting the order of transport mode priority that is suggested in the Part V guidelines, the company may have a heavy commitment to employee transportation and experience a reduction in its ability to respond to another guideline (Part V, Page 55) stating that in deciding what to take along to the host area, management should consider what it will need to help "rebuild our damaged society" in the event of an actual outbreak of war.	BOEING	If the organization does not have enough vehicles to support both requirements, it will probably commit what it has to personnel transportation and thereby jeopardize its ability to support recovery in a post-attack environment.	Place greater emphasis in the ORP on employee ride-sharing, and clarify the organization's priorities in the use of its transportation equipment.
D. Resources Private	B-5	Note 1, Figure 8, page 8-5 of the ORP states, "Remember there will be gasoline available."	BOEING	Employees, drawing on their past experience regarding the availability of gasoline, may not believe the statement that gasoline will be available and discredit the entire ORP.	Include brief explanation of the plan which assures that gasoline will be available.

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
V. TRANSPORTATION (continued)					
E. Allocation Resources/Requirements		(No comments)			
F. Other		(No comments)			
VI. RELOCATION LOGISTICS					
A. Scheduling		(No comments)			
B. Routing	8.11	The ORP states that in case the "crisis escalates" (page 8) or if "attack is imminent" (page 11) risk area workers and their families, originally relocated to the Enunclaw host area, will relocate again from Enunclaw to the Yakima host area.	BOEING	The Enunclaw host area is just that--a "host area." It is unnecessary to relocate again to Yakima. If an attack was imminent, persons trying to relocate from Enunclaw to Yakima, a distance of some 193 Km (120 miles), might be on the road during the attack.	Eliminate the plan to move Enunclaw evacuees to Yakima when the crisis escalates. Evacuees in Enunclaw should take shelter there, and workers in the risk area should enter all-effects shelters or undergo tactical evacuation, VII.
VII. ADVANCE PARTY					
VIII. HOST AREA OPERATIONS					
A. Shelters	16	The ORP implies (section 2.3.5, page 16) that relocated personnel would be preempted into civil defense duties at the host area.	BOEING	Would civil defense labor be paid? By whom? How would workers be selected, and what happens if they refuse to work?	Include details concerning host area duties and selection of evacuees in the ORP.
B. Authority	--	The plan never addresses who has authority in the host area.	BOEING WA ST DES	Without proper authoritative lines drawn, many instances will arise whereby either no party is taking care of some necessary activity or several parties are trying to control the same activity simultaneously.	Have the plan describe the authoritative lines of the organization and the host officials.

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
VIII. HOST AREA OPERATIONS					
C. Other	--	The ORP does not state who is responsible for maintaining the congregate care facilities.	BOEING	Either the facilities will not be properly maintained, or jurisdictional difficulties will arise.	Clearly delineate the respective duties of the Boeing party and the host maintenance personnel in the ORP.
	--	Nothing is said in the ORP about the possibility of the relocating party finding their designated congregate facility already occupied.	BOEING	In a large-scale evacuation, some evacuees are likely to enter host area congregate care facilities without authorization, leaving the designated occupants with a troublesome and potentially threatening situation.	Include brief statement telling procedure to be followed by authorized occupants should this situation be encountered.
IX. RISK AREA OPERATIONS					
A. Tactical Evacuation	19	The ORP relies on tactical evacuation for protection of risk area workers. All effects shelters are said to be available, but no preference or procedures for their use is given. All effects shelters provide a high degree of protection and require minimal response time if placed close to the workers.	BOEING	All-effects shelters may be the best protection for workers. When 20 minutes or more warning is available, it is conceivable that tactical evacuation might work in some situations; but flight times for SLBM's (Submarine Launched Ballistic Missile) can easily be under 20 minutes and particularly so for coastal cities, as the case here. The all-effects shelters would make protection reachable in well under 20 minutes.	The federal government should make a determination regarding the viability of the tactical evacuation concept. These results should be used to provide guidance for state, local, and organizational planners.
		"The tactical evacuation mentioned on page 19 would probably not work since the valley is full of aim points, including this facility."	FEMA HQ		
		"It is not practical to expect that workers can tactically evacuate from the risk area upon receipt of attack warning."			
		"Do not believe that tactical evacuation will work."	WA ST DES		

Figure 6 (Cont'd) Evaluation of ORP by Subject Category



# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
IX. RISK AREA OPERATIONS					
A. Tactical Evacuation	19	Page 19 of the ORP presents the alternatives of tactical evacuation or all-effects shelter to protect risk area workers. However, directions as to which alternative to use under which conditions are not included	BOEING	Without definitive instructions regarding which alternative to use, risk area workers would waste critical time trying to ascertain the best method; and in the haste of arriving at a decision may not make the best choice.	Provide explicit information in the ORP regarding which alternative to employ under which conditions.
B. Shelters	19	Page 19 of the ORP mentions the availability of all-effects shelters, but no information on shelter location or the allocation of shelter spaces is provided.	FEMA HQ FEMA X KCLC WA ST DES	Risk area workers must know which shelter to use to avoid more workers than capacity going to one shelter, and they need to know exactly where the shelter is to arrive there quickly.	Include shelter location(s) and number of spaces in part 2.4 of the ORP. Assign risk area workers to particular shelters accordingly.
C. Support	--	The ORP fails to comply with the request on page 75 of the Part V Guidelines to identify workers for civil defense duties in the risk area's Staging Area.	BOEING	Unless organizations provide such personnel, understaffing will occur.	Identify necessary personnel for civil defense duties.
D. Other		(No comments)			
X. ECONOMICS		(No comments)			
XI. SOCIAL/BEHAVIORAL/ PUBLIC RELATIONS ASPECTS		(No comments)			
XII. RETURN	--	The plan never addresses the subject of returning from the host area back to the risk area ("dissevacuation") once the threat of attack is over.	BOEING	Without a planned and controlled return movement, chaos could result. Also the mention of return is heartening in that it reinforces the idea that the situation is not hopeless.	Include information for "dissevacuation" in the plan.

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
XIII. MISCELLANEOUS	1	The Background section of the ORP in the first paragraph on page one states "the best defense for the civilian population against such an attack has been seen as a system of readily accessible hardened shelters assigned for protection against heavy over pressure and provisioned for short-term survival of large numbers of people following the strike. This concept is called the Crisis Shelter Plan (CSP)."	FEMA HQ FEMA X WA ST DES	This paragraph is incorrect in a couple of respects. The statement about hardened shelters is correct as far as it being the best defense is concerned, but the hardened shelter is not part of the CSP concept put forth in the next sentence. The shelters being considered in CSP are fallout shelters, the only blast protection would be the modest amount that some fallout shelters may be able to withstand. The CSP referred to in the last sentence is "Community Shelter Plan" not "Crisis Shelter Plan."	The first paragraph should be changed to correct the inaccuracies noted.
	1	The last paragraph on page 1 uses the name "Russia" when the correct term would be "Soviet Union."	BOEING WA ST DES	As stated, this is technically incorrect.	Change to correct terminology.
	2	The second paragraph on page 2 states, "It is believed that the United States should and will develop a similar stance for two reasons...."	FEMA HQ	Sentence could be better stated.	Change to read, "The United States is developing a similar stance for two reasons...."
	2,11	At the bottom of page 2 the ORP states, "This concept envisions a joint relocation operation conducted by Federal, State, and 'organizational' (i.e., private) entities."  About a third of the way down page 11 the ORP states, "Other employees--those residing outside the risk area (estimated number is 110) and those inside but electing not to relocate with the company (estimated number is 460)--are to be kept fully informed and urged to cooperate with such local and Federal governmental instructions as are issued to the general populace."	WA ST DES	Both of these excerpts omit a governmental entity necessary for successful plan implementation. The first excerpt omits mention of local governmental entities and the second omits the mention of State government.	Change first excerpt to read, "This concept envisions a joint relocation operation conducted by Federal, State, local, and...."  Change second excerpt to read, "...urged to cooperate with such local, State, and Federal governmental instructions...."

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
XIII. MISCELLANEOUS	7,8	Page 7, line 8 states, "...in the event the President of the United States should order the evacuation of the Puget Sound area..."; and the last line on page 8 states, "...in the event the President of the United States order the evacuation...."	FEMA HQ	These sentences are technically incorrect. The assumption under CRP is that the President will request the evacuation; and the Governor will, in turn, order it.	Change the word "order" to "request."
	7	The Emergency Planning Committee, described on page 7 of the ORP, does not include labor representation.	KCLC	Lack of a participative labor role on the Emergency Planning Committee may result in a withholding of ORP support by the unions. This would be detrimental to the viability of the plan.	Select membership of Emergency Planning Committee such that all employee groups have representation.
	10	Item 4 at the top of page 10 states that when a potential crisis exists, "The ECP will immediately prepare a time-phased Event-Action Checklist...."	BOEING FEMA HQ FEMA X	Due to the enormous work load on the EPC during threatened crises, this checklist should be prepared in advance.	Have EPC prepare this checklist in advance.
	21	The bottom of page 21 states, "The crisis shelter plan, which was conceived in the 1950's...."	FEMA HQ	Technically incorrect.	Change the sentence to read, "The community shelter plan, which was introduced in the 1960's...."
	24	On page 24, item 9 of Figure 5 (Typical Time-Phased Event-Action Checklist) gives the key event as "Relocation extends into third week; hostilities seem imminent," while the action (response to event) says, "Key employees on critical programs scheduled to return to work."	BOEING	Since the purpose of the relocation is to protect employees, it seems incongruous to return them to work when hostilities appear to be imminent.	Reconcile this incongruity in the checklist to make the ORP more convincing.

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

# EVALUATION OF ORP BY SUBJECT CATEGORY

CATEGORY	REF ORP PAGE NO.	COMMENT	SOURCE	PROBLEM	RECOMMENDATION
XIII. MISCELLANEOUS	--	Both the guidelines and the ORP recognize that there is likely to be spontaneous, undesirable evacuation by some portion of those persons scheduled as participants in a planned relocation, but neither makes mention of those who may leave in an orderly manner but return spontaneously to the risk area.	BOEING	If people find life in the host area uncomfortable and decide that the security so afforded is not worth the disadvantages, they may simply leave and return to their homes. Such action would be administratively disruptive.	The ORP should emphasize the advantages of adhering to the relocation plan and provide for incentives to be used, if necessary, to keep relocated personnel from spontaneously returning.
	--	The ORP creates a high density of skilled aerospace workers in Yakima.	BOEING	The high density of skilled aerospace workers relocated in Yakima, previously a city of limited military and economic importance, may promote Yakima to prime target status.	In planning relocations, make sure that the population density and skill mix created in the host areas are such that they do not create a likely target.
	--	The ORP lacks specific details, such as the names or job titles of the advance party members.	FEMA HQ	Without these details the plan cannot be implemented.	Make a determination of the degree of detail the ORP should contain; and in instances where more specific information is relegated to supplemental documents (e.g. SOP's) identify said document in ORP.

Figure 6 (Cont'd) Evaluation of ORP by Subject Category

## 2.4 ADAPTABILITY OF PART V GUIDELINES TO OTHER CRISIS SCENARIOS

Section 2.1.6 details the methodology used to assess the adaptability of the Part V guidelines to other crisis scenarios. This section contains the results of that assessment.

### 2.4.1 Major Flood

#### Scenario

At 10 p.m. (H-hour) on Friday, December 13, 1985, a warm front moves into the Puget Sound region bringing extremely heavy rains with it. The rains come while the region is still blanketed with a snowfall.

Rain runoff augmented by melting snow soon begins to swell the smaller tributaries, such as Issaquah Creek.

By 4 a.m. the next morning (H+6 hours) these smaller tributaries throughout the King and Pierce County areas are spilling over their banks. By now it is realized that the area may be in for severe flooding, and preparations are begun to combat a flood.

The heavy rains continue to fall over the entire region; and by 10 p.m. on Saturday, December 14 (H+24 hours) the medium-sized rivers in the area, such as the Cedar and Tolt, have started to flood. No letup in the rain occurs, and the weather forecast is for heavy rains to continue. Authorities in the area continue preparations to combat the major flood that is now inevitable. By 10 p.m. on Sunday (H+48 hours) the area's large rivers, such as the Snoqualmie, are over their banks.

Flood levels are at the 100-year mark throughout King and Pierce Counties. Flooded areas are shown in two series of maps published by the U.S. Department of Housing and Urban Development entitled Flood Insurance Rate Maps and Flood Hazard Boundary Maps.

Monday at 4 p.m. (H+66 hours) leakage starts to occur in the Howard Hanson Dam--a flood control dam on the Green River. The leakage quickly becomes severe, and the threat of a catastrophic dam failure is present. Evacuation of downstream areas which could be affected by a dam break (see Figure 7) is ordered.

In order to try to eliminate a catastrophic dam failure, at 5 p.m. (H + 67 hours) officials decide to draw down the dam's reservoir by a controlled outflow. Outflow gates are scheduled to be opened at 7 p.m. (H + 69 hours).

The downstream area to be evacuated between the dam and the City of Auburn is relatively small because of the steep slopes adjacent to the river during much of that stretch. However, the area to be evacuated downstream from Auburn is substantial. This area includes the entire Green River Valley (which contains Boeing's Kent Space Center) and the highly-industrialized Duwamish River Basin.

The heavy rain continues until 10 p.m. on Monday (H+72 hours) at which time it starts to diminish. The small tributaries continue to flow at their crests for another half day and then start to recede. One day later they have returned to within their banks. Medium-sized rivers continue at crested flow for a day after the rain diminishes, and it is estimated that it will take another two days for them to return to below flood stage. The threat of a catastrophic dam break also disappears by this time. Large rivers will continue to flow near crest levels for about a week. It will take another week after this for them to return to their banks.

#### Property Damage/Injuries/Deaths

Severe property damage is experienced along rivers and in low lying areas. Some 16,000 people are homeless and have had to evacuate. Injuries and deaths are low--the death toll standing at 12. The more efficient flood warning systems implemented as a result of past floods in the area are credited with keeping injury and death tolls down.

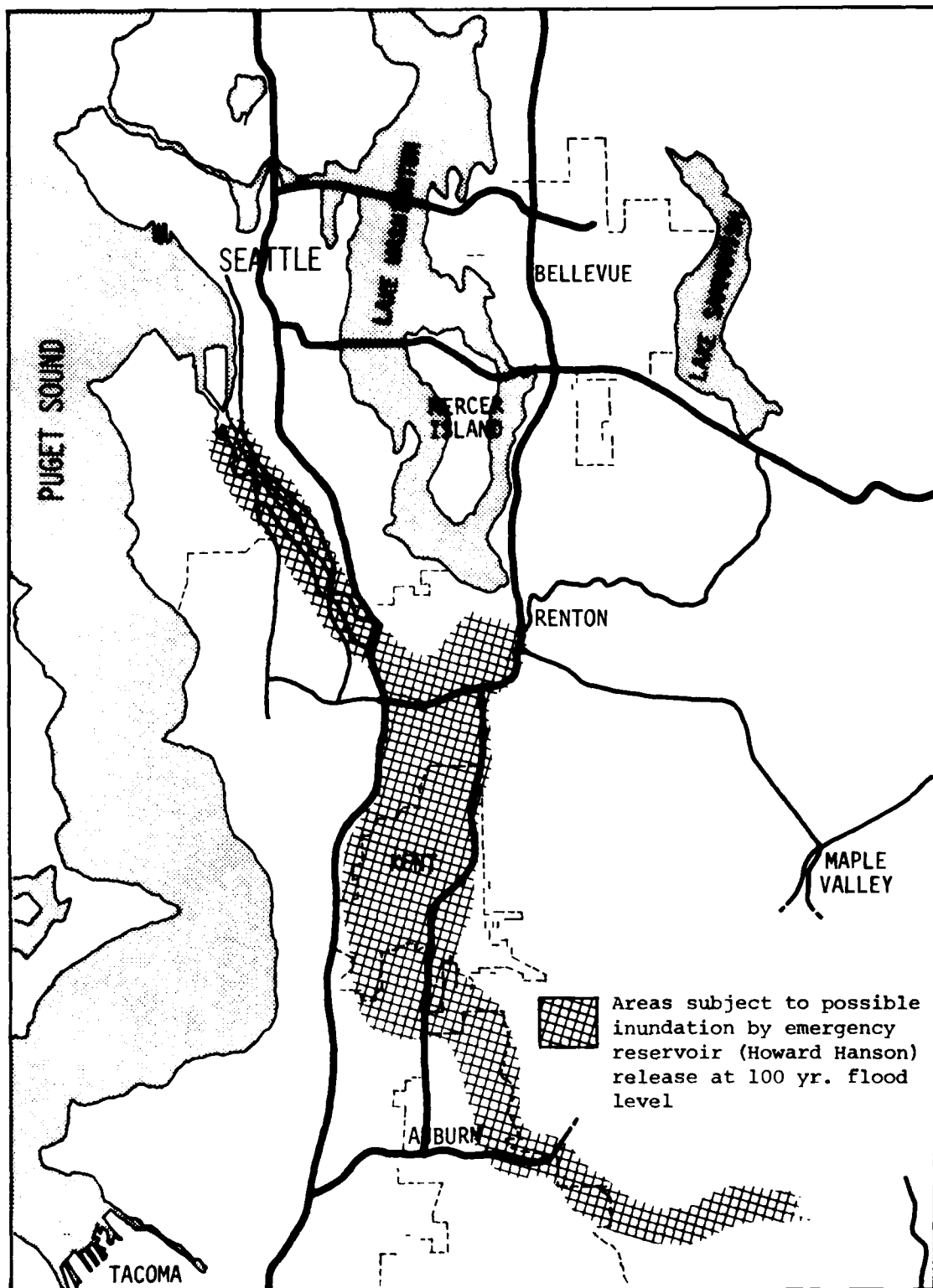


Figure 7. Major Flood Scenario Map

### Dams

As previously mentioned, the Howard Hanson Dam is threatening to fail. None of the area's other dams are in danger.

The effect of opening the outflow gates will be to cause the already full Green River to overtop its banks, causing flooding in nearly the entire Green River Valley.

### Telephone

Telephone service in areas along the Snoqualmie River, includes Duvall, Carnation, Snoqualmie, and North Bend, is virtually non-existent. Most service in the Green River Valley has been interrupted. Service in most of the other areas not in the actual flood zone remains intact. Service in the flooded areas is disrupted mainly by downed lines.

### Highways

Highways in the area have suffered extensive damage. Washouts and bridge failures are widespread. The State Route 410 bridge at Greenwater has been washed out. Several sections of I-90 have been washed out by the South Fork of the Snoqualmie River east of North Bend. Much of the road system near the Snoqualmie River is inundated as are numerous stretches of the Maple Valley Highway. Virtually all roads in the Green River Valley are underwater. State Highway 522 is underwater at Bothell. Many underpasses are flooded.



## Public Utilities

### Electric Power

North Bend, Snoqualmie, Carnation, and Duvall are completely without electrical power, and it is estimated that a week will be required before any service can be restored. Most power in the Green River Valley is out, but damage to power facilities there is relatively minor. Power outages are also widespread in the Maple Valley area. Service is intact in most of the remainder of King and Pierce Counties, except for the areas which are actually flooded.

### Water Supply

Large areas of King and Pierce Counties have damaged water supply systems.

Approximately 40% of the residents in King County and 60% of the residents in Pierce County have been warned that their systems may be contaminated. Water systems in some of the area's small cities have received substantial physical damage as well.

### Sewage

Sewage systems in the flooded areas have received substantial damage. Repairs will require several months. The system within the Seattle city limits receives little damage and continues to function near normal.

### Natural Gas

Natural gas service remains uninterrupted in almost all non-flooded areas.

# Time Sequence

<u>Date</u>	<u>Day</u>	<u>Time</u>	<u>Event</u>
Dec 13	Fri	10 p.m.	Heavy rains start. (H-Hour)
Dec 14	Sat	4 a.m.	Small tributaries start flooding. (H+6)
Dec 14	Sat	10 p.m.	Medium-sized rivers start flooding. (H+24)
Dec 15	Sun	10 p.m.	Large rivers start flooding. (H+48)
Dec 16	Mon	4 p.m.	Howard Hanson Dam starts leaking. (H+66)
Dec 16	Mon	5 p.m.	Officials decide to draw down reservoir (H+67)
Dec 16	Mon	9 p.m.	Outflow gates opened (H+69)
Dec 16	Mon	10 p.m.	Heavy rains start diminishing. (H+72)
Dec 17	Tue	4 a.m.	Small tributaries start receding. (H+78)
Dec 17	Tue	10 p.m.	Medium-sized rivers start receding. (H+96)
Dec 18	Wed	4 a.m.	Small tributaries return to their banks. (H+102)

Dec 19	Tnur	10 p.m.	Medium-sized rivers return to their banks. Threat of catastrophic dam break disappears. (H+144)
Dec 23	Mon	--	Large rivers start receding.
Dec 30	Mon	--	Large rivers return to their banks.

#### Relationship of Scenario to Guidelines

Figure 10 diagrams the relationship between preparing a plan for an organizational relocation at the Boeing Kent Space Center, as derived from the Part V guidelines and subsequently modified (see Figure 3), and preparing a plan for a major flood at that facility. The required planning steps are similar. The figure shows by superimposition the changes to the ORP preparation flow diagram required to accommodate the flood plan preparation flow. No planning element additions are required for the ORP flow to accommodate the flood plan flow. However, some of the ORP elements required modification; and some are unnecessary for the flood plan.

Figure 12 utilizes a matrix to identify the similar and different crisis planning elements for the ORP vs. the flood plan. (Earthquake and nuclear terrorism planning elements are also contained in Figure 12.) Elements shown as being different are accompanied by an explanation.

## 2.4.2 Major Earthquake

### Scenario

On Monday, April 29, 1985 at 7:29 a.m. an earthquake hits the Puget Sound area. the magnitude is 7.5 Richter, with epicenter at 47.5<sup>0</sup>N latitude and 122.2<sup>0</sup>W longitude, in Renton. The depth of the earthquake is 50 kilometers. Based on historical records, a 7.5 Richter earthquake appears to be the largest earthquake likely to hit the Puget sound area. The April 29, 1965 earthquake registered 6.5 Richter and was located very close to this one.

### Earthquake Prediction

The earthquake occurred without specific warning. Because of the thick deposits of glacial materials that blanket the Puget Sound depression, little is known about faulting in the area. Unlike the well-known surface faulting present in California, the spacial distribution of small earthquakes in the Puget Sound region indicates deformation over a broad volume of the earth's crust rather than along well-defined faults. The largest earthquakes in the region have occurred at subcrustal depths of 50 - 70 kilometers and have exhibited no surface faulting. This deeply buried movement makes monitoring, and thus earthquake prediction, difficult in the area.

### Property Damage/Injuries/Deaths

Building collapse occurs up to 105 kilometers (65 miles) from the epicenter (see Figure 8). Serious injuries (those requiring hospitalization) are suffered by 4800 persons; and 1200 deaths occur--mostly from building collapse. Injuries and deaths are highly dependent on the time and day the earthquake occurs. Compared to many other structures, the wood frame residences predominant in the Puget Sound region are much safer.

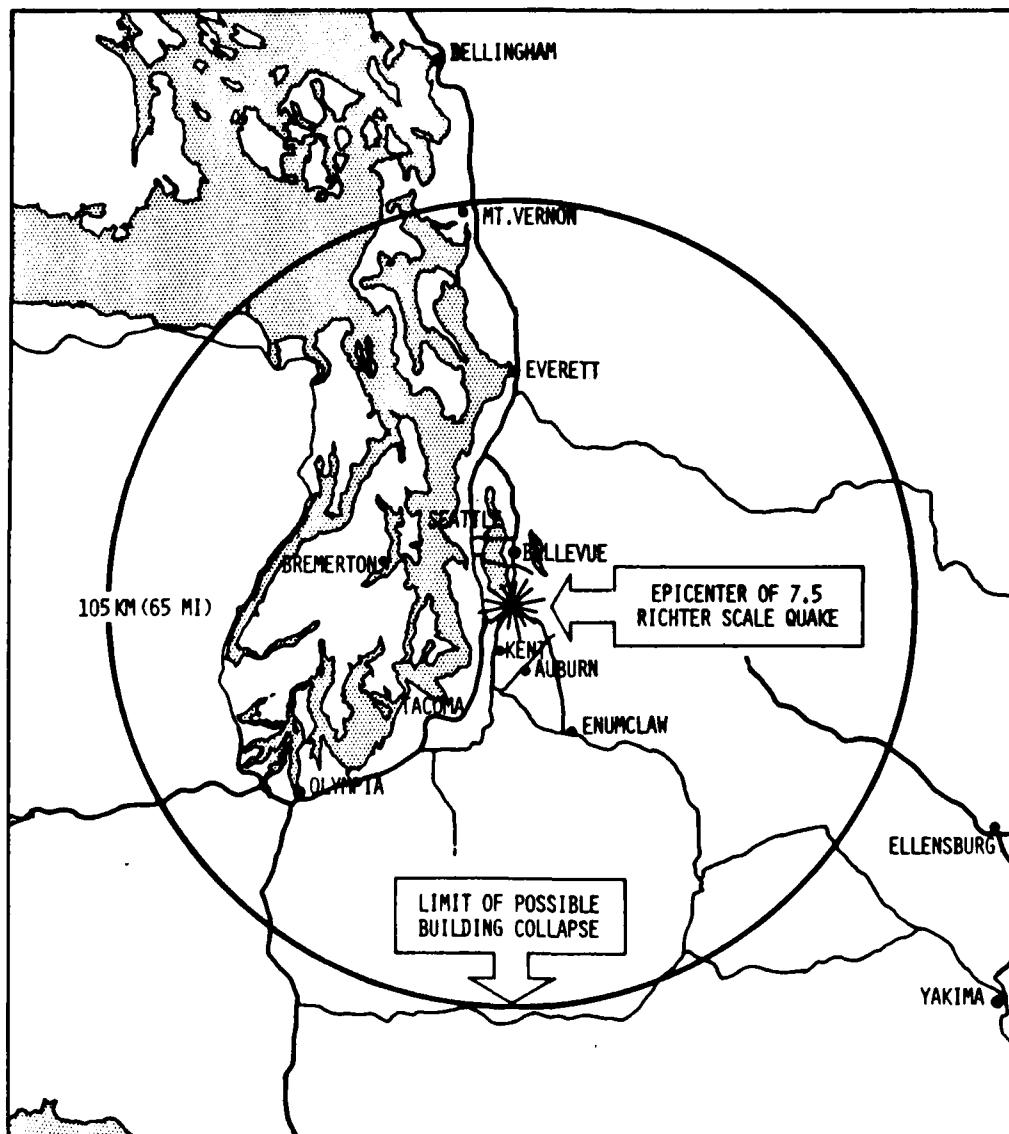


Figure 8. Major Earthquake Scenario Map

### Dams

No damage to the numerous dams in the area occurred. Of the fifteen major dams in the area, none is known to have suffered any damage as a result of past earthquakes.

### Tsunamis

No tsunamis occurred. Tsunamis, sea waves generated by seismic activity, have not been experienced in Puget Sound and have a very low probability because of the nature of the terrain.

### Public Buildings

Damage to municipal and country buildings is extensive. The percentage of loss of function immediately after the earthquake is shown below for the following Seattle and King County essential services: administration, police, fire, and communications.

#### PERCENTAGE LOSS OF ESSENTIAL MUNICIPAL AND COUNTY FUNCTIONS DUE TO EARTHQUAKE DAMAGE

	<u>ADMIN.</u>	<u>POLICE</u>	<u>FIRE</u>	<u>COMMUNICATIONS</u>
Seattle Municipal	75	25	40	45
King County	50	80	30	Not Avail.

Impairment levels at the end of one month are expected to be half that shown above.

## Radio And Television

Forty percent of the radio station studios and 20% of the radio station towers are impaired. For television stations these figures are 30% and 20% respectively. KIRO, the local emergency broadcasting station, was put out of action when their antennae on Vashon Island were destroyed. Twenty-five percent of these impairments are expected to be restored within 24 hours and the remainder within 30 days.

## Telephone

Twenty percent of the telephone service in King County has been interrupted. Half of this is expected to be restored within 48 hours. The remainder will remain uncorrected for an indefinite period.

Major loss of telephone communication had not occurred in Puget Sound earthquakes in the past. However, this earthquake is of significantly greater magnitude than other recent damaging earthquakes.

## Transportation

### Railroad

Damage to the Puget Sound railroads is extensive. Numerous slides have blocked tracks. Blockage along the east shore of Puget Sound is extensive. Soils in the Puget Sound area are particularly susceptible to sliding when clays are saturated with water. The water content during this earthquake was moderate. Several moveable railroad bridges have been slightly impaired. This type of damage is expected to require 1 - 2 weeks to repair.

More serious damage, requiring vertical and horizontal realignment to rectify, has occurred in numerous places. In addition, four major railroad bridges and two tunnels have suffered severe damage.

## Highways

Several types of highway damage have occurred -- landslides, movement of structurally poor ground, and failed bridges and overpasses. Most of the landslides can be quickly removed by bulldozer. Numerous differential settlements have occurred at manmade highway embankments and deep fills -- many at approaches to bridges and overpasses. Most of these can be repaired temporarily with little loss of use.

Eight major highway or freeway overpasses and bridges have collapsed, including the I-90--I-405 Factoria interchange and the I-5--I-405 interchange at Southcenter.

## Mass Transportation

The area's mass transportation system is essentially METRO buses. Little bus damage was experienced. Most were on the road for the morning rush hour when the earthquake occurred. However, blocked roads and downed trolley wires hamper operations.

## Airports

Both major airports serving Seattle, Seattle-Tacoma International and King County International, have received significant runway damage. Sea-Tac manages to return to limited operations within a few hours; but King County, due to its location in a structurally poor soil area, is forced to close for 48 hours until temporary repairs can be made. Control tower operations continue to function during the crisis.

## Ports

Severe structural damage has been experienced at the ports of Seattle and Tacoma. A large fire has broken out on the Seattle waterfront -- an area that received substantial damage in the 1965 earthquake. Eighty percent of the port facilities are inoperative for two days, and thirty percent are out of service for an indefinite period.



## Public Utilities

### Electric Power

Forty percent of electrical service in King County is knocked out by the earthquake due to damaged transmission lines and switching terminals. Extensive damage to the distribution systems in the urban areas is also present. Damage to generating facilities serving the crisis area is relatively small due to the remote location of much of the area's generating facilities.

### Water Supply

Approximately 400 water main breaks and 550 service leaks have occurred. As happened in the 1965 earthquake, Everett's 122-centimeter (48-inch) main water supply lines have failed where they cross Ebey Slough.

### Sewage

Damage to sewage collection systems is great. Approximately 1,250 breaks exist, many in older clay sewer lines having little tolerance to movement without fracturing. Additional damage to sewage systems has occurred in pumping plants. It is estimated that in both Seattle and Tacoma 50 percent of the sewage treatment facilities will be inoperable for at least a month.

### Natural Gas

Approximately 400 breaks have occurred in natural gas distribution systems (includes both main and service lines). Among the breaks are several in the bulk El Paso natural gas line entering the U.S. from Canada. Repairs to the bulk line will take several days and until completed will result in the cut off of much of the Puget Sound area from its bulk supply.

## Boeing Facilities

Extensive damage has occurred to Boeing facilities. Boeing's Renton facility is located right at the epicenter. Collapsed buildings have trapped numerous people at the Kent Space Center. Rescue efforts are complicated here by the presence of classified material in some of the collapsed areas.

NOTE: Much of the information presented in this scenario was drawn from a 1975 report by The United States Geological Survey entitled A Study of Earthquake Losses in The Puget Sound, Washington, Area.

## Relationship of Scenario to Guidelines

Figure 10 also diagrams the relationship between preparing a plan for organizational relocation at the Boeing Kent Space Center and preparing a plan for a major earthquake at that facility. The required planning steps are the same as those for a major flood, and the same changes to the ORP preparation flow diagram are required as described in 2.4.1 for flood.

Similarities and differences in the crisis planning elements for ORP vs. major earthquake are shown in matrix form in Figure 12.

### 2.4.3 Nuclear Terrorism

#### Scenario

##### Initial Contact And Demands

At 9 a.m. (H-hour) on Thursday, August 1, 1985, a Seattle radio station receives a communique from a group of terrorists who identify themselves as the ZODIAK SQUAD. In its communique the group characterizes itself as a militant, anti-war group which has strong links with numerous Third-World revolutionary movements. The ZODIAK SQUAD demands the destruction of the Trident base operating at Bangor, Washington and specifies that the Delta Refit Pier, the missile checkout and refurbishment buildings, and the storage facilities for nuclear weapons on the base be destroyed with conventional explosives, and that this destruction be carried on national television networks. The group also demands the release of ten specified prisoners in federal custody. It announces that if its claims are not met that the group will detonate a stolen nuclear weapon somewhere within the Seattle city limits.

##### Photographs

Further information about the group's weapon and about the credibility of its threat is received at noon (H + 3 hours) when a packet of photographs is dropped off at the offices of the Seattle Post-Intelligencer. The photographs display an atomic demolition munition posed against a local landmark and provide enough closeup detail to prove that the weapon has been in the Seattle area. A detailed explanation of how the weapon will be activated is also included with the photos.

##### Counter Activities And Weapon Identification

A team of FBI, DOD, DOE, FEMA, and state and local authorities is quickly assembled to deal with the situation. Within 3 hours (H + 6 hours) the technical details of the weapon have been received from military authorities. The weapon turns out to be an atomic demolition munition

(ADM) which had been stolen from a NATO storage igloo in West Germany in January, 1985--a theft which had been carefully hushed up. According to records, the ADM in question has a yield of 10 kilotons and weighs about 45 kilograms (100 pounds). It is easily portable. Moreover, given the original design of the weapon for "Special Force" employment in Europe, the authorities conclude that the terrorists would be able to make good on their threat; for the weapon was optimized for individual release and is not fitted with the elaborate security releases prevalent on crew-served nuclear weapons or on more advanced tactical munitions.

The authorities are uncertain about ZODIAK's tactics with the weapon and are not sure where it will be emplaced. The localization of the threat thus becomes very difficult. Little is known about the composition of the ZODIAK SQUAD. However, it is believed that the group can call on, either as members or as advisers, former ADM specialists who have had service in NATO.

#### Deadline

At 9 p.m. (H + 12 hours) the group transmits a second communique that gives until noon on August 4 (H + 75 hours) for destruction of Trident facilities and transport of the prisoners to a designated foreign country for release.

#### Evacuation

At this point (H + 12 hours) the authorities decide to implement civil defense procedures, and an evacuation of the Seattle area is directed to begin immediately. A 2200 square kilometer (850 square mile) area bordered on the north by a line coinciding with 164th Street Southeast in Snohomish County, on the south by one coinciding with Southeast 272nd Street in King County, on the east by 276th Avenue Southeast, and on the west by a north-south line through the westernmost point of Blake Island is ordered evacuated (see Figure 9).

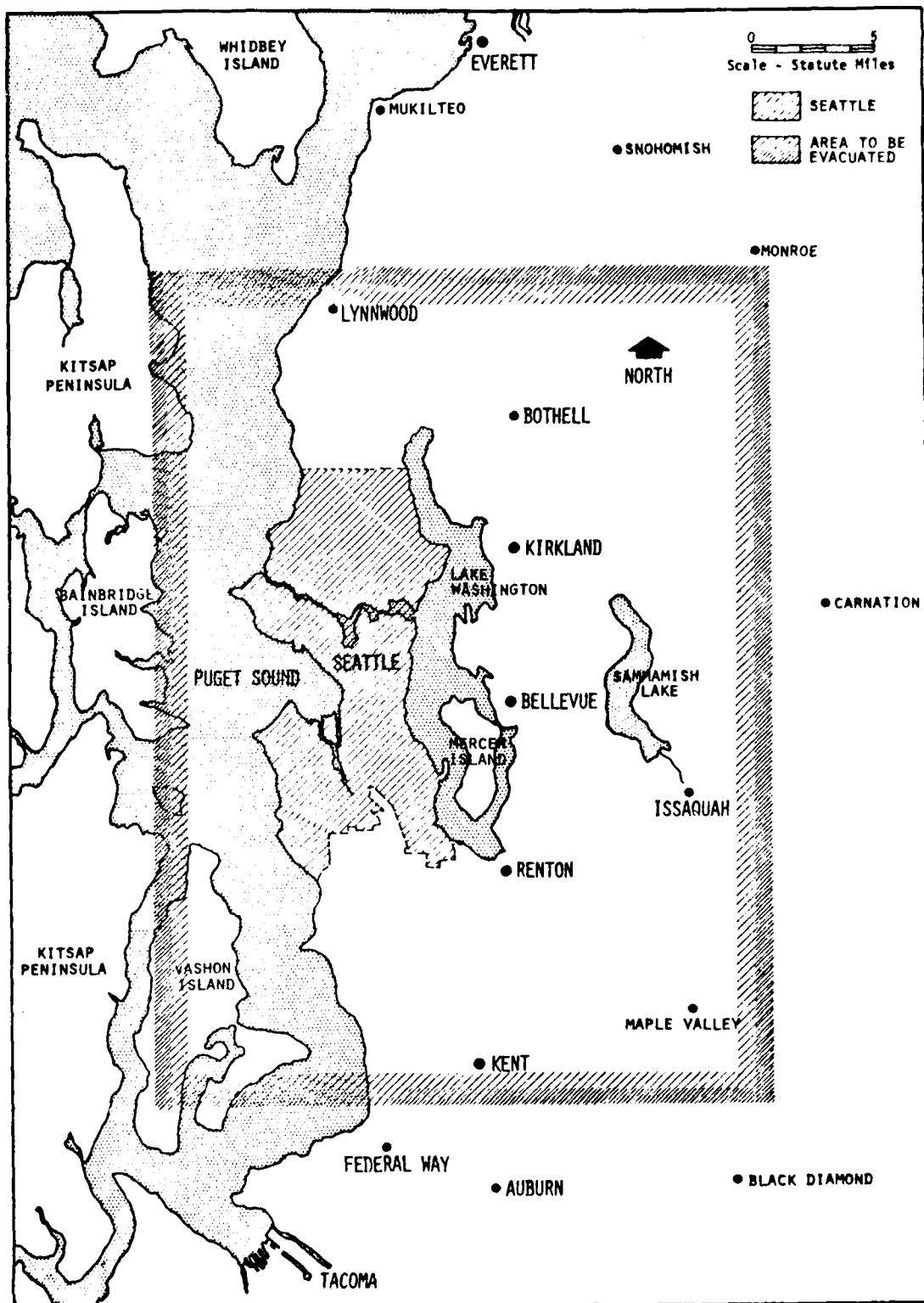
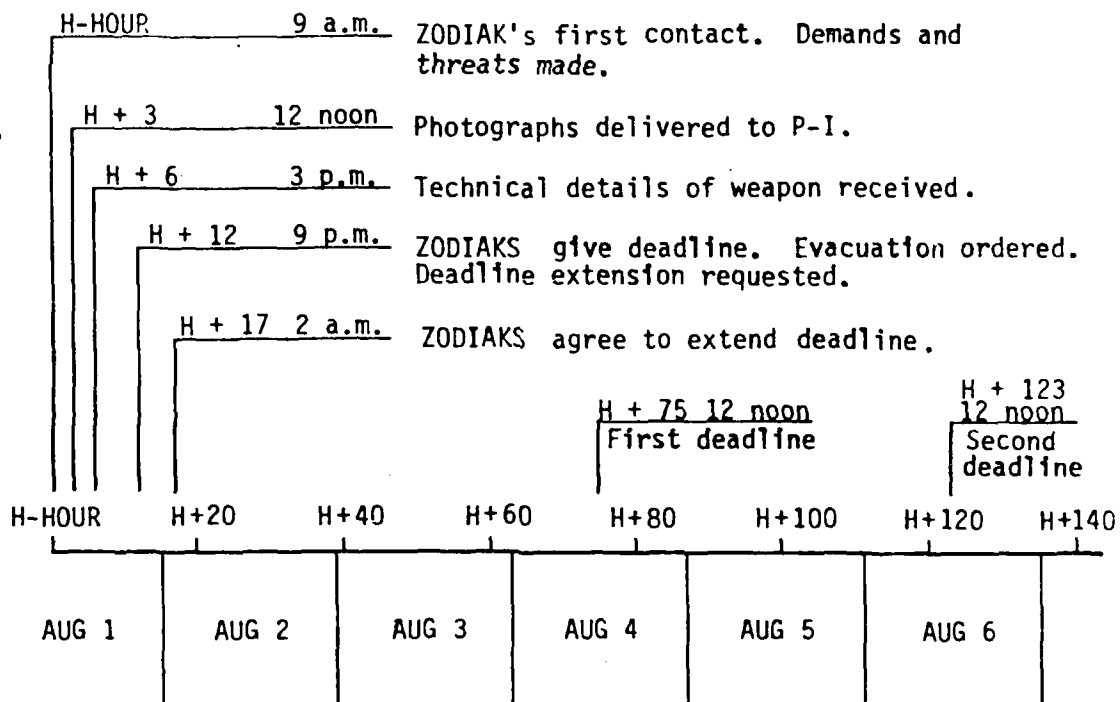


Figure 9. Nuclear Terrorism Scenario Evacuation Area Map

## Deadline Extension And Ultimatum

Concurrently with the order to evacuate, the authorities go on the air to request an extension of time, claiming that the destruction of the large Delta Refit Pier at Bangor would consume so much explosive and would require such elaborate preparation (such as drilling holes and setting charges) that an extension would be needed to comply with the demand. Within 5 hours (H + 17 hours) the ZODIAK SQUAD transmits a third communique agreeing to an extension of 48 hours to August 6 at 12 noon (H + 123 hours); but claims that at that time, should their demands not have been met, that the weapon will be allowed to detonate.

### Time Line



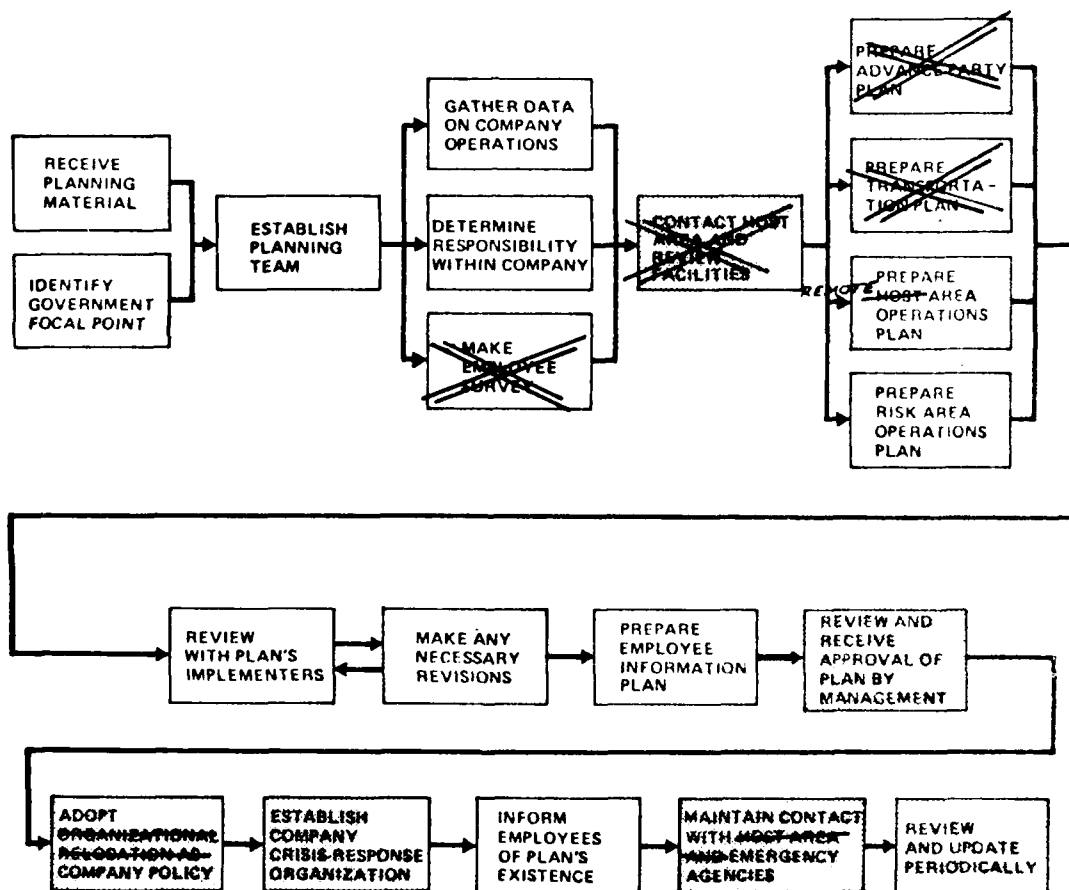
## Relationship of Scenario to Guidelines

Figure 11 diagrams the relationship between preparing a plan for an organizational relocation at the Boeing Kent Space Center and preparing a plan for nuclear terrorism at that facility. The required planning steps are almost identical -- the only difference being that a step has been added for nuclear terrorism to provide for quick reaction.

The Figure 12 matrix identifies the similar and different crisis planning elements for the ORP vs. the nuclear terrorism plan.

**FLOOD PLAN  
EARTHQUAKE PLAN**

**~~ORP~~ Preparation Flow**



Element added to flow diagram as derived from Part V to make ORP Preparation Flow complete

Figure 10. Flood Plan/Earthquake Plan Preparation Flow



# NUCLEAR TERRORISM PLAN

## ORP Preparation Flow

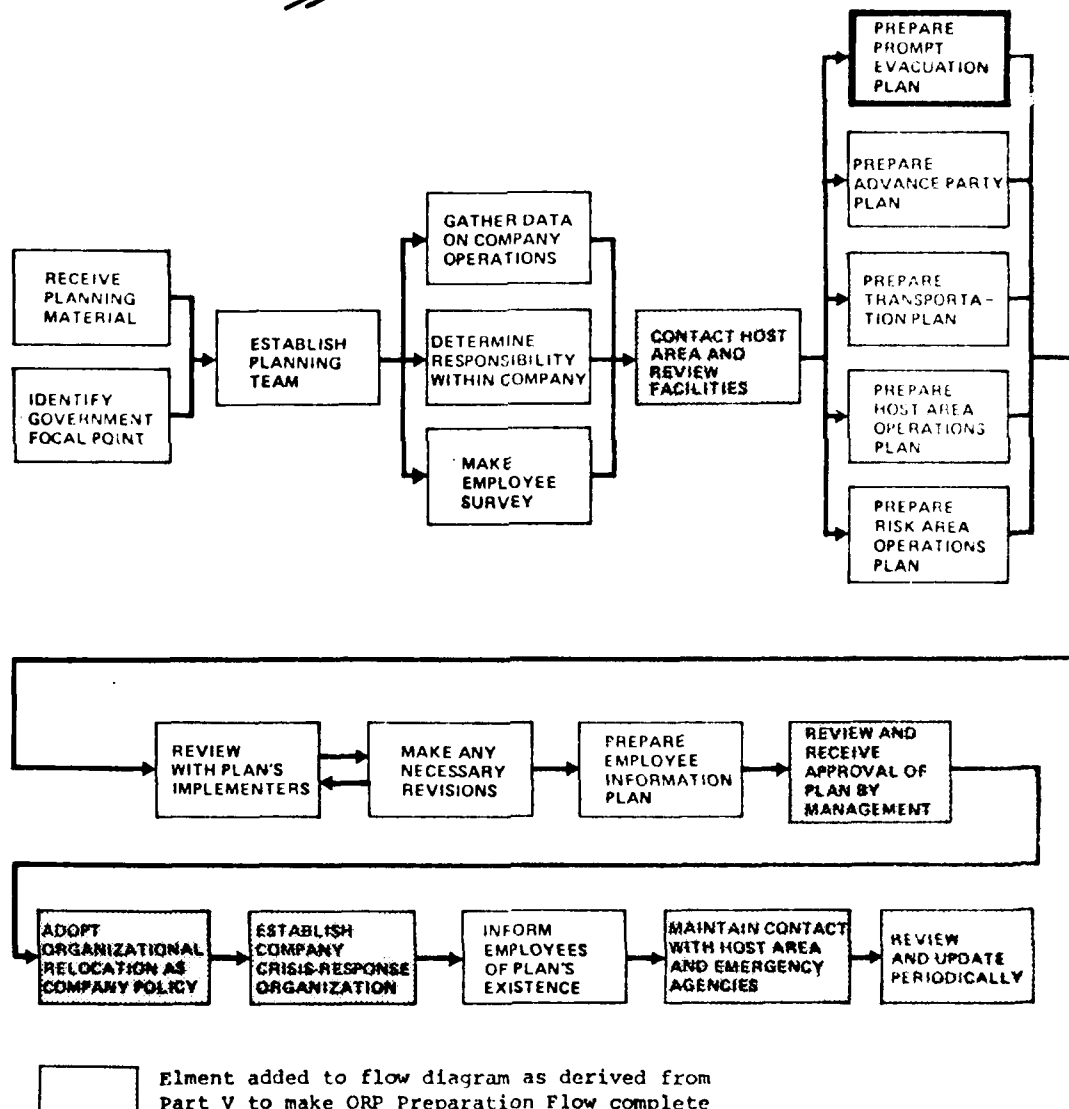


Figure 11. Nuclear Terrorism Plan Preparation Flow

ORG CRISIS PLANNING ELEMENTS PER PART V GUIDELINES (MODIFIED REF FIG 3)	SIMILARITIES AND DIFFERENCES WITH RESPECT TO CRISIS PLANNING ELEMENTS OF:		
	MAJOR FLOOD	MAJOR EARTHQUAKE	NUCLEAR TERRORISM
RECEIVE PLANNING MATERIAL	SIMILAR	SIMILAR	SIMILAR
IDENTIFY GOVERNMENT FOCAL POINT	SIMILAR	SIMILAR	SIMILAR
ESTABLISH PLANNING TEAM	SIMILAR	SIMILAR	SIMILAR
GATHER DATA ON COMPANY OPERATIONS	SIMILAR	SIMILAR	SIMILAR
DETERMINE RESPONSIBILITY WITHIN COMPANY	SIMILAR	SIMILAR	SIMILAR
MAKE EMPLOYEE SURVEY	DIFFERENT ELEMENT UNNECESSARY Any employee information needed would already be available in company records	DIFFERENT ELEMENT UNNECESSARY (See remark for "Major Flood")	SIMILAR
CONTACT HOST AREA AND REVIEW FACILITIES	DIFFERENT ELEMENT UNNECESSARY No host area element necessary as the need for a mass evacuation is not anticipated. Displaced persons could easily be accommodated by facilities related to social agencies in the immediate area	DIFFERENT ELEMENT UNNECESSARY (See remark for "Major Flood")	SIMILAR Depending on the nature of the nuclear terrorism threat a mass evacuation involving use of host areas may or may not be involved
<p>Uncovered elements may be performed concurrently</p> <p>Elements related to major earthquakes are not applicable</p>			

Figure 12. Part V Guidelines Adaptability Assessment

ORP CRISIS PLANNING ELEMENTS PER PART V GUIDELINES (MODIFIED REF FIG 3)	SIMILARITIES AND DIFFERENCES WITH RESPECT TO CRISIS PLANNING ELEMENTS OF:		
	MAJOR FLOOD	MAJOR EARTHQUAKE	NUCLEAR TERRORISM
PREPARE ADVANCE PARTY PLAN	DIFFERENT - ELEMENT UNNECESSARY Need for a mass evacuation is not anticipated Therefore there is no need for an advance party.	DIFFERENT - ELEMENT UNNECESSARY (See remark for "Major Flood")	SIMILAR (See above remark.)
PREPARE TRANSPORTATION PLAN	DIFFERENT - ELEMENT UNNECESSARY Since a mass relocation of people is not anticipated, the company does not need to be concerned with the transportation of its employees	DIFFERENT - ELEMENT UNNECESSARY (See remark for "Major Flood")	SIMILAR (See above remark.)
PREPARE HOST AREA OPERATIONS PLAN	DIFFERENT Change the word "host" to "remote". No host area is necessary; however, it will be necessary to conduct some company operations at locations other than the affected plant—most likely at other Boeing company plants.	DIFFERENT (See remark for "Major Flood")	SIMILAR (See above remark.)
PREPARE RISK AREA OPERATIONS PLAN	SIMILAR Plans for operations within the risk area are necessary. The nature of those plans varies widely with the crisis.	SIMILAR (See remark for "Major Flood")	SIMILAR (See remark for "Major Flood")
			DIFFERENT - ELEMENT ADDED Add element: Prepare prompt evacuation plan... This additional element is needed to provide for nuclear terrorism acts in which the time to react is short.
REVIEW WITH PLAN'S IMPLEMENTORS	SIMILAR	SIMILAR	SIMILAR
MAKE ANY NECESSARY REVISIONS	SIMILAR	SIMILAR	SIMILAR
{ Bracketed elements may be performed concurrently.			

Figure 12 (Cont'd).. Part V Guidelines Adaptability Assessment


GPP CRISIS PLANNING ELEMENTS PER PART V GUIDELINES (YOU WILL SEE THIS)	SIMILARITIES AND DIFFERENCES WITH RESPECT TO CRISIS PLANNING ELEMENTS OF:		
	MAJOR FLOOD	MAJOR EARTHQUAKE	NUCLEAR TERRORISM
PREPARE EMPLOYEE INFORMATION PLAN	SIMILAR Methods and media will vary depending on the crisis.	SIMILAR (See remark for "Major Flood")	SIMILAR
REVIEW & RECEIVE APPROVAL OF PLAN BY MANAGEMENT	SIMILAR	SIMILAR	SIMILAR
ADOPT ORGANIZATIONAL RELOCATION AS COMPANY POLICY	DIFFERENT Remove words "organizational relocation" and "company policy" that relate to a policy regarding relocation. We do not have to be adopted.	DIFFERENT (See remark for "Major Flood")	SIMILAR Depending on the nature of the nuclear terrorism threat, an organizational relocation may or may not be involved.
ESTABLISH COMPANY CRISIS RESPONSE ORGANIZATION	SIMILAR	SIMILAR	SIMILAR
INFORM EMPLOYEES OF PLAN'S EXISTENCE	SIMILAR	SIMILAR	SIMILAR
MAINTAIN CONTACT WITH HOST AREA AND EMERGENCY AGENCIES	DIFFERENT Remove words "host area and". There will be no host area involved, but contact with emergency agencies will still be maintained.	DIFFERENT (See remark for "Major Flood")	SIMILAR
REVIEW AND UPDATE PERIODICALLY	SIMILAR	SIMILAR	SIMILAR
<div>  Element added to make GPP organization appropriate </div>			

Figure 12 (Cont'd). Part V Guidelines Adaptability Assessment

## 2.5 RECOMMENDED PHASE II ACTIVITIES

The following steps and actions are recommended as essential to further development of the OR and CRP concepts and to provide a basis for policy formulation decisions by FEMA.

### 2.5.1 Program Integration

Develop and assure the accomplishment of planning, scheduling, and implementation of functions required for further refinement of the OR and CRP concepts.

- o Review the Organizational Relocation Planning approach chart (Figure 13) and make any required revisions. This chart shows the relationship of research to the overall concept development. The chart can be used for review of research and the further detailing of activities by general categories.
- o Review each block (element) of the chart with appropriate experts to assess the feasibility of accomplishment, considering the "state of the art" for that particular activity. Establish methodology through building logic flow diagrams. Develop a detailed task description. Develop contractor labor and time requirements.
- o After development of the above, the tools are in hand to establish:
  - Detailed and integrated program schedules
  - An estimated cost for each element
  - Organization and required skills by task
  - Details of methodologies to be used
  - A detailed task description
  - A means of correlating descriptions and skill, time and dollar requirements with individual contracts.
  - A basis for future program planning
  - A plan to measure costs and progress against each other

- o As a further refinement, the data should be transposed to a variety of graphic forms designed for high visibility of program scope, status and controls.

#### Detailed Description of Recommended Management Tools

Schedule: A time phased sequential logic network illustrating all major events should be constructed. This involves establishing prerequisites for each element and interdependencies between elements. Such a display is extremely valuable in tracking program progress, in the early identification of problems, and in planning resolution to problems that may impact schedule, cost or quality.

Work Plan: A work plan should be developed which tracks program activities on an integrated basis for all participants. This plan becomes a common guideline to all contractors and agencies relative to technical interchanges necessary for program accomplishment. The plan would specify what interchanges are desired and how and when they would be consummated.

Problem Reporting and Impact Analysis: A system should be developed to track schedule progress and to recognize and report on all delinquent events. This requires that each delinquent accomplishment be analyzed to determine the impact on the total program. Are there prerequisites or interdependencies involved: What effect is there on downstream events? If a delinquency can be absorbed in the schedule, it is reported and dropped. If it has program impact, then it requires coordination with affected contractors, rescheduling and/or program redirection.

Integration Meetings: There is a definite value in committing the OR program to graphics which give visibility to planned progress versus accomplishment. Probably the most valuable results are results realized through acquainting all program contractors and agencies with the overall objectives and the planned method of attaining these objectives. It points every one in the same direction and becomes the baseline for all activities. To get these results it is necessary

to conduct periodic reviews which involve all contributors. These reviews should be scheduled to assist in coping with all critical program elements.

Cost Controls: Flow charts developed to establish methodology and skill/time requirements should be used as a base line to track cost performance. Each sub-task would be assigned a value, and accomplishments can be measured by comparing planned values with actual expenditures. Format is not critical and can be designed to fit existing requirements.

Status Monitoring: Status monitoring is the heart of the system. It triggers problem reporting and resolution and gives the COTR constant visibility on program progress. Involved activities include contact with all participants to obtain status information and the subsequent update of program graphics. All schedule anomalies must be analyzed to determine if a delinquent event affects the schedule progress of subsequent related events. If a "domino" affect is noted, then a full impact analysis is required. This includes contact with affected participants, the formulation of a recovery plan and in some cases establishes a need for program redirection. Suitable reports are generated to fully apprise the COTR of the scope and status of all problem areas.

#### 2.5.2 Revise and Improve the Organizational Relocation Plan

The draft ORP has been reviewed by several agencies and Boeing management. As a result of these reviews and meetings we have accumulated many comments which should be reviewed and incorporated (as appropriate) to improve plan quality and expand the conceptual scope of certain sections. This activity would include our own recommended changes which have been developed through technical interchanges with outside agencies and group discussion. Those comments not incorporated should be addressed and the rational for their exclusion documented.

#### 2.5.3 Revise Guide for Crisis Relocation Contingency Planning Part V

An analysis of plan deficiencies is required to determine what corrective actions should be applied to the guidelines. A further study of the guidelines is needed to determine how these corrective actions may be presented so that a planner can properly instructed when formulating an ORP. This activity requires participation by our planners and our professional training people. After formulating revisions to Part V, we would participate in appropriate reviews with local government, State, Region and FEMA Headquarters.

#### 2.5.4 Complementary Organization in Host Area

An exploratory analysis is needed to determine not only the feasibility of relocating skills and resources but also the problems which may be involved in density and skill concentrations. The analysis should also explore alternate means to preserve a community capability of being self-sustaining and maintaining its production abilities. This analysis would include data collection regarding a specific host area, an economic/statistical study including industrial types and modeling of skills and resources within industrial types and the development of skill/resource profiles.

These data would become emergency planning guidelines which could be used to determine what segments of population would be relocated to a specific host area. If this refinement is feasible, it will contribute a great deal towards reducing the culture shock of crisis evacuations and help maintain the quality of life in the host area and consequently contribute to a more rapid recovery.

#### 2.5.5 Study the Logistical and Social Aspects of Return

The present guidelines do not address the concept of return from a host area when international negotiations are successful and the risk area is undamaged. This area of planning should be covered. Considerations would include an advance survey of living conditions. It should also seek to



establish a priority of return sequences so that essential services and goods are ready for return of the population. There should also be a guide developed for dealing with the host areas regarding clean-up and rehabilitation.

#### 2.5.6 Organizational Host Area Operation/Support Plan

Detailed planning with the host area is required to make OR a viable concept. It is clear from work to date that organizations and host area government must do their planning together to maximize their overall effectiveness. As a minimum the following items should be covered in the checklist:

##### Reception and Care

1. Establish the size and travel mode of arriving organization.
2. Meet with host area planners and determine assignment of quarters.
3. Determine methods for distribution of food, clothing and bedding.
4. Plan for methods of construction of expedient shelters.
5. Set up lines of communication with County Authorities.  
(Compatible with intraorganizational Communications)
6. Plan the disposition and care of pets.
7. Establish requirements for manpower to assist County agencies.  
Develop organization charts illustrating skills and numbers of people needed by the County.
8. Establish requirements for work parties to:
  - a. Assist in Registration.
  - b. Assist in distribution of food and goods.
  - c. Prepare meals.
  - d. Perform kitchen duties and utensil maintenance.
  - e. Perform housekeeping chores.
  - f. Perform facility maintenance including electrical, heating and plumbing systems.

9. Establish a company organization compatible with County requirements to act as a focal point for special family needs.
10. Establish accounting procedures to record the use of resources, goods and services.
11. Provide access to counseling.

#### Health and Medical

1. Based on the number of people to be relocated we can determine the number and size of first aid units and the emergency equipment required at the relocation quarters. Standards can be found in OSHA, WISHA and Red Cross manuals. When quarters are assigned, the appropriate emergency medical facilities and vehicles can be identified.
2. Establish work assignments to assist in the operation and maintenance of medical equipment and facilities.

#### Safety, Security, Fire Protection and Communications

1. Establish procedures for safety and surveillance in assigned quarters. Include initial and sustaining inspections. Assign work parties to implement safety requirements.
2. Establish the extent of participation in providing security manpower and equipment to supplement local law enforcement.
3. Determine means and locations for development of secondary dispersal plan.
4. Establish participation in providing labor and equipment for fire prevention and fire fighting.
5. Establish requirements for emergency communications network.

## Resource and Supply

1. Cover those resources available from the organization. An inventory of resources and the skills associated with those resources should be provided to County agencies.
2. Other resources and supply may be required under separate study. The study group may involve representatives from retail outlets, service companies, utilities, transportation, labor unions, financial services, manufacturing and government agencies.

### 2.5.7 Recovery

There is no data developed to deal with recovery from attack or natural disasters. Scenarios should be developed, planning should be initiated and guidelines prepared and published.

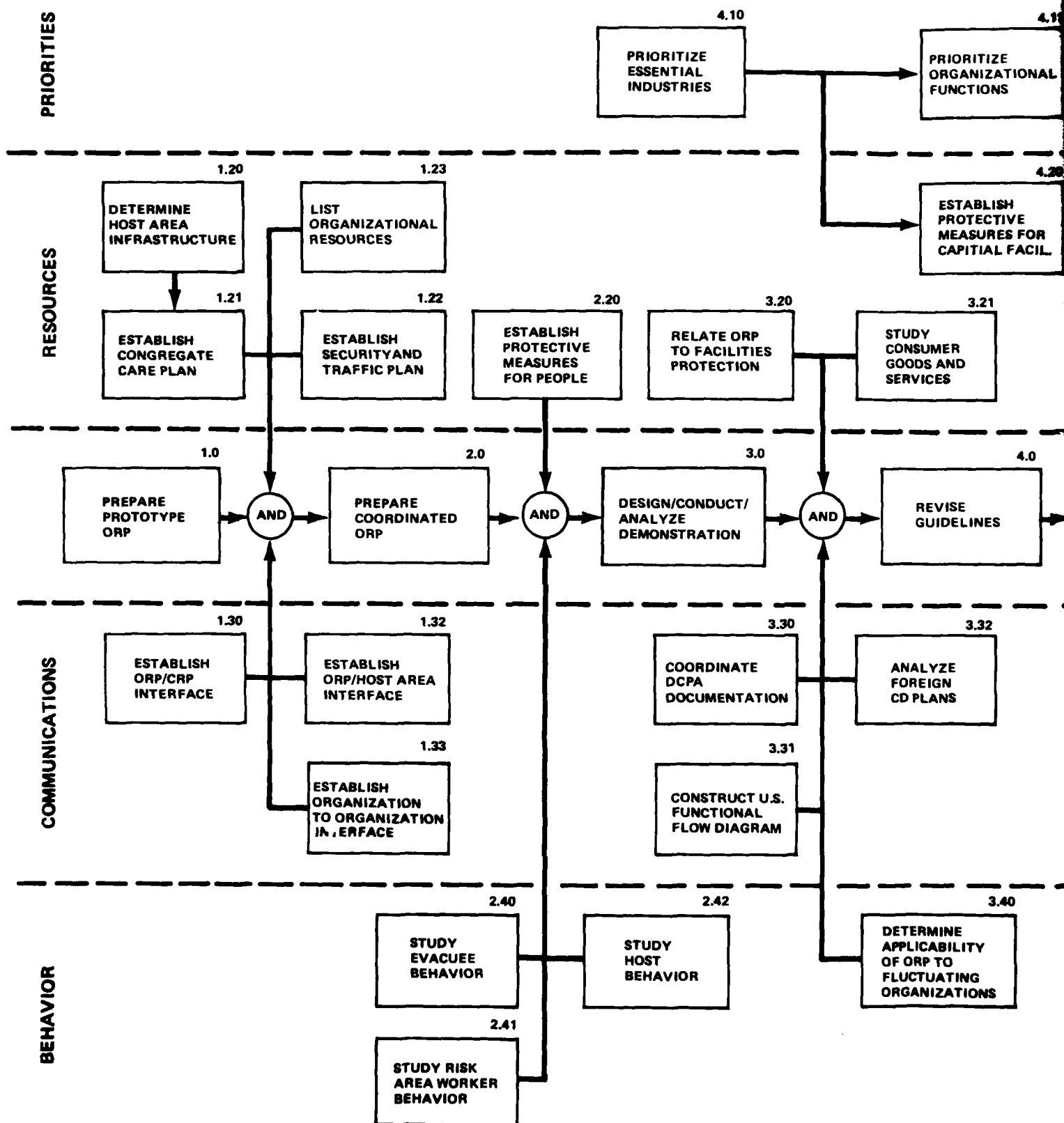
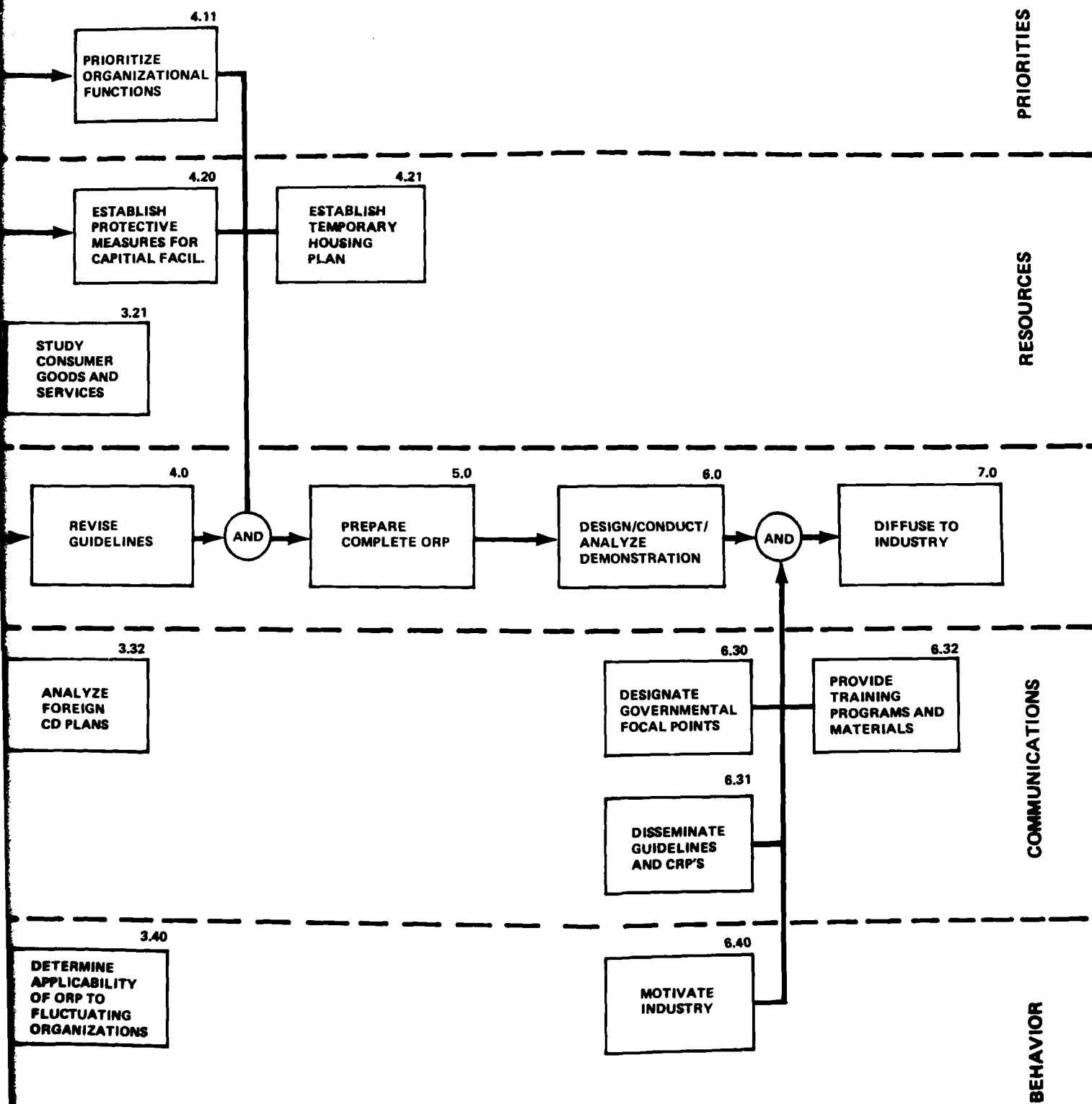


Figure 13. Organizational Relocation Planning Approach



**PART THREE**  
**Draft ORP and Review**

### 3.0 Part Three-Draft ORP and Review

#### 3.1 Draft ORP

##### ORGANIZATIONAL RELOCATION PLAN

(Draft)

Task No. 3

of

Contract DCPA-01-79-0218

Prepared by

BOEING AEROSPACE COMPANY

Special Projects

for

DEPARTMENT OF DEFENSE

DEFENSE CIVIL PREPAREDNESS AGENCY

Preparation of this document was solely for the purpose of testing and evaluating the guidance provided in DCPA's Guide for Crisis Relocation Contingency Planning ("Part V Organizational Planning for Crisis Relocation") CPG-2-8-E. This document should not be construed as an authentic plan which would have to address the many coordination aspects necessary for a major multi-locational organization.

## ORGANIZATIONAL RELOCATION PLAN

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND--HISTORICAL CIVIL DEFENSE CONCEPT

Following the post-WWII emergence or development of nuclear offensive capability among military superpowers, the United States Government and the public assumed that this capability would first be used--if used at all--in the launching of a sudden Pearl Harbor-type strike, by the Soviet Union. The best defense for the civilian population against such an attack has been seen as a system of readily accessible hardened shelters designed for protection against heavy overpressure and provisioned for short-term survival of large numbers of people following the strike. This concept is called the Crisis Shelter Plan (CSP).

A prolonged cold war stalemate has eroded the credibility of the CSP concept and reduced the state of readiness of its shelter facilities. In some cases the location of major shelters has been forgotten; in other instances stored survival equipment has not been properly maintained. Disparaging articles in the news media have contributed to the lack of confidence in civil defense. Over the years a general mood of apathy and fatalism has grown in the public mind. This attitude has been expressed--quite understandably--as a hope that nuclear warfare can be forever averted so that the populace will never have to rely on its inadequate defenses.

### 1.2 OVERVIEW--CHANGING US-USSR RELATIONS

Meanwhile, both the technology and the strategic concepts of the principal adversaries (United States and Russia) have been undergoing a gradual change that has now rendered the likelihood of a sudden strike, in the minds of most modern authorities, "vanishingly small". A more likely scenario, it is now considered, is one in which a protagonist (Russia) might provoke a crisis confrontation by backing political demands with the threatened use of nuclear force. With large segments of the civilian population suddenly made hostage, the threatened adversary (the United States) would have to (a) capitulate, (b) call the enemy's bluff (a dangerous option), or (c) quickly secure the safety of the populace while seeking to defuse the threat.

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PREPARE AND EVALUATE AN ORGANIZATIONAL RELOCATION PLAN.(U)

APR 80 J M MILLER, I J CARNEY, P J PARHAM

DCPA01-79-C-0218

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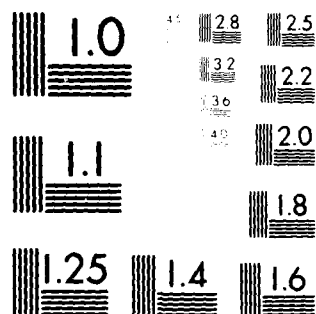


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MICROCOPY RESOLUTION TEST CHART  
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The best intelligence reports indicate that the Soviet Union has given a great deal of attention to civil defense, including not only the construction of shelters and the training of civilians but also the preparation of plans for the evacuation of the bulk of the population from its major cities in the event of a crisis. Thus, the Soviet leaders have the option of evacuating the cities or sheltering the populace in place, depending on their assessment of the situation at the time. This clearly shows that the Russian defensive posture is not limited to the expectation of a sudden strike.

It is believed that the United States should and will develop a similar stance for two reasons: (1) to be able to respond in kind in the event the Soviet Union attempts to intimidate the U.S. by provoking a confrontation and simultaneously evacuating its own target cities and (2) to reduce fatalities in the event an attack actually occurs.

### 1.3 ALTERNATIVE--AN UPDATED CONCEPT

It may be supposed that once both parties achieve the capability of nationwide urban evacuation (relocation), the threat of actual attack will become even less likely as negotiations tend to replace military operations. Obviously, these negotiations will be conducted at the highest levels of the two governments. For this reason, no evacuation should ever be initiated until called for by the President of the United States.

The concept discussed in this document is based on the guidelines provided by the DOD's Defense Civil Preparedness Agency (DCPA) in a document titled:

#### Guide for Crisis Relocation Contingency Planning--

#### Part V: Organizational Planning for Crisis Relocation

This concept envisions a joint relocation operation conducted by Federal, State, and "organizational" (i.e., private) entities.

Since the crisis that might emerge from the type of confrontation described above can be expected to heighten over time as negotiations approach an impasse,

it is assumed that there will be sufficient time to conduct an orderly relocation to a prearranged and less vulnerable location ("host area"). The relocation of the Puget Sound population requires as much as three days (allowing for the slower movement of less mobile persons such as the elderly, the handicapped, and the residents of care and correctional institutions), while the duration of the relocation could be expected to be from one to three weeks, or longer in the event that an attack should materialize. This concept assumes that individual organizations such as private business concerns and local agencies and institutions will be sufficiently attracted by the prospect of available governmental support to participate, in the planning, funding, and execution of the regional relocation.

The Federal Government's (CRP), when fully operational, will be the interlocking directive for the constituent Organizational Relocation Plans (ORP's) of the participating organizations.

Crisis relocation planning for this area began with the preparation of a State CRP, jointly developed by Federal and Washington State civil defense specialists. In it, potential risk areas, evacuation routes, and relocation centers ("host areas") were established. The boundaries of each risk area were set in a manner that will allow residents of the larger community to determine whether they live inside or outside its limits and thus to decide for themselves whether to plan to remain in their homes or participate in the relocation if area evacuation is ordered. (See figure 1.)

The governmental planning team also specified the host areas to which risk area organizations should be assigned. These selections were based on safe but accessible distances from the risk area, traffic volume capacity of roads and highways, prevailing wind direction, available resources for the care of an additional temporary population, and the distribution of essential goods and services.

The CRP contemplates continuing high-level participation by Federal, State, and local governments. In addition to providing overall direction and planning materials, the Federal Government has advised that it will provide direct and indirect financial assistance to the private sector (individuals and business organizations) to ensure continued economic functioning during and after an

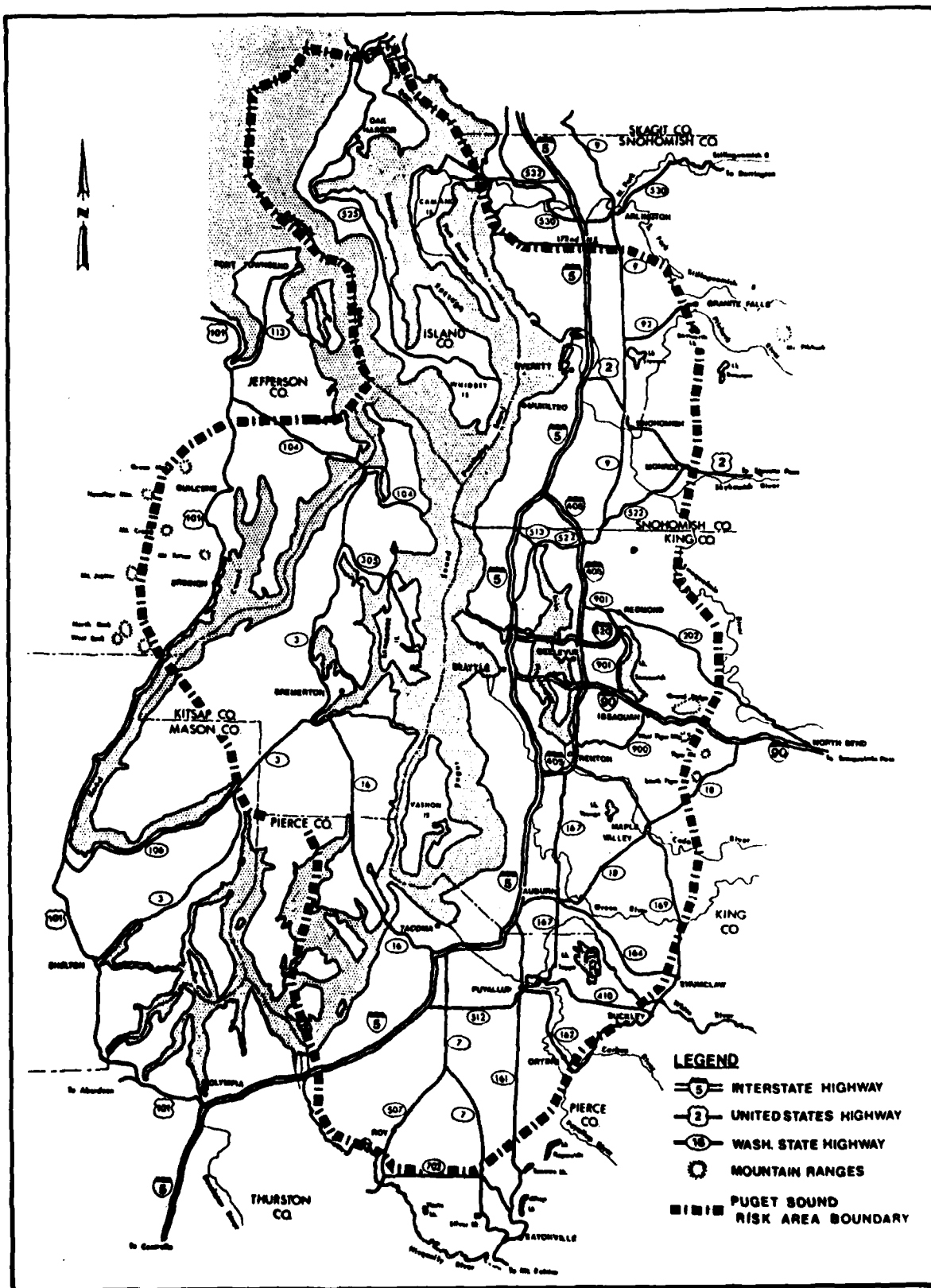


Figure 1. Puget Sound Risk Area

emergency. State and local governments, supported by Federal agencies and by participating private organizations, will be responsible for law enforcement, health, welfare, and other essential services. The participating organizations are expected to fund their individual planning, training, and operating activities associated with property protection and personnel relocation, and are assumed to be responsible for their individual and family travel expenses, etc.

#### 1.4 CONCLUSION

A thoughtful analysis of the CRP will convince the objective organization head that high-percentage survival of the citizenry and rapid economic and operational recovery are indeed possible--in fact, likely--following a threatened or even an actual nuclear attack, provided an effective personnel relocation program is properly planned and maintained. It is quite conceivable that some organizations will be able to resume a reduced level of operations prior to returning to the home location, for a basic tenet of the concept is the communication among organization members while at the host relocation area. In any event, the ultimate resumption of normal operations will be far easier for those organizations that have planned and executed an orderly relocation than for those that must undergo the excruciating rebuilding of a scattered and decimated company.

#### 1.5 PROFILE OF PROTOTYPE ORP

In order to refine its CRP and obtain essential feedback representative of participating organizations, the DCPA has awarded a contract to the Boeing Aerospace Company BAC calling for the development of a prototype ORP, the evaluation of DPCA guidelines, and the performance of related studies and technical assistance. This document constitutes the BAC draft ORP. Its scope covers only the Boeing Space Center at Kent, which was selected as a representative Boeing entity. Obviously, a plan tailored specifically for the Space Center is not a true model for every potential participant. It does, however, highlight the basic considerations that every company or agency must address in order to properly prepare an organizational relocation plan.



The Boeing Space Center at Kent, Washington, is an office, laboratory, and fabrication facility situated on 450 acres of former agricultural land in the broad, low-lying Green River Valley 16 miles (25km) south of Seattle.

The Space Center (see map, figure 4) was planned and designed for both immediate use (as envisioned at the time of its completion in 1965) and for future requirements. Most of the 16 buildings at the Center of flat, two-story, rectangular construction. Space reserved inside the complex for future building requirements has been inexpensively converted into temporary parking areas.

Approximately 6,600 employees are presently assigned at the Space Center, most of them to BAC organizations. The mean household size is 3.09 people. The majority (92%) of the employees live within 24km (15 miles) of the facility. Work being performed at the Space Center includes military programs and research projects sponsored by various Government agencies.

NOTE: Since this document is a prototype Organizational Relocation Plan, The Space Center is treated herein as though it were a discrete "organization". For example, the vehicles referred to are treated as though they were under the local control of the Boeing Space Center, which, of course, they are not. It is acknowledged that in a real-life situation, a BAC-developed ORP would not be limited to an isolated plant location but would reflect coordination among the various affected BAC locations.

## **2.0 BOEING SPACE CENTER RELOCATION PLAN**

### **2.1 BOEING AEROSPACE COMPANY POLICY \_\_\_\_\_, "BAC**

**Participation in National Crisis Relocation Plan" (Draft)**

**REFERENCE: Corporate Policy 10BI, "Emergency Planning and Civil Defense"**

**Boeing Aerospace Company BAC will maintain an Organizational Relocation Plan (ORP) applicable to the Boeing Space Center to ensure the Company's ability to comply effectively in the event the President of the United States should order the evacuation of the Puget Sound area by reason of an international emergency.**

**It is BAC policy to cooperate with Federal, State, and local government plans and directives and to arrange for the orderly relocation of employees and their dependents in the event of an officially declared emergency. It is also company policy to continue performance of essential operations during a threatened crisis, to provide adequate measures for total shut-down prior to an actual attack, and to resume operations to the extent possible with minimal interruption of company performance following a threatened or actual crisis.**

**An emergency planning committee has been constituted to implement this policy. The committee will be headed by a chairman appointed by the BAC president and will include representatives of the Public Relations, Facilities, Finance, Contracts, and Industrial Relations organization. The committee will operate directly under the Office of the President--BAC and will be charged with the overall planning and implementation of company emergency plans.**

**It is recognized that actual relocation in accordance with this plan will be only part of a massive evacuation involving a major part of the total community population. To minimize the difficulties inherent in such an evacuation, all possible preparations will be coordinated in advance and will be adjusted from time to time as necessary to maintain the company's continued state of readiness. A significant aspect of this effort will be the essential coordination between the company and responsible governmental officials of the designated host areas.**

Currently, Yakima is the designated host area for the majority of relocated personnel and Enumclaw for employees engaged in critical operations. The emergency planning committee is charged with conducting this liaison.

A key feature of the company host-area liaison in the event of actual relocation is the role of an "advance party" of predesignated company representatives. (See attachment A.) This party will precede general movement of participants by several hours in order to prepare for the reception and care of large numbers of relocated persons soon to follow. Its duties will include such activities as establishing a relocation headquarters, helping relocated persons to find assigned living quarters as they arrive, cooperating with host area officials in establishing congregate care facilities and registration procedures, and coordinating Boeing-provided support services such as food service, medical care, fire prevention, waste disposal, and security. To a considerable degree, the success of the relocation will depend on the qualifications, training, and conduct of this party. Accordingly, it is essential that advance party members be selected on the basis of demonstrated resourcefulness and ability to deal with people under stress. The composition, duties, and essential support of such an advance party will be documented in appropriate form and updated as necessary.

Arrangements will be made for continued, scaled-down performance of essential operations during a threatened emergency and for immediate, total evacuation in the event of an impending attack. To this end, employees designated as critical to such on-going operations will be temporarily relocated, together with their dependents and personal effects, to prearranged housing in the Enumclaw area and will be advised to commute to the Boeing Space Center until the emergency is concluded. Maximum alert will be maintained during such scaled-down operations to ensure rapid evacuation in the event the crisis escalates.

To preclude the possibility of premature evacuation, authority to order relocation of Boeing Space Center personnel and operations is limited to the President--BAC, or to his delegate in the event of his absence.

The chairman of the emergency planning committee will counsel the BAC president concerning the ORP and is charged with notifying him in the event the President of the United States orders the evacuation of the affected (Puget Sound)

risk area. The committee will prepare and maintain appropriate command media to implement this policy, specifically including such topics as emergency plant shutdown, records preservation, employee evacuation transit planning, liaison with host-area officials, training, and dissemination of employee information.

## 2.2. PREPARATION FOR EVACUATION ORDER

The relocation plan, to be workable, must be realistic, up-to-date in terms of the changing threat, and adequately supplied and funded. Funds required to sustain the ORP described herein in the desired state of readiness will be subscribed from the operating budgets of the affected (i.e., benefitting) divisions. Details regarding the specific amount will be developed after company review of overall emergency planning needs.

The following preparations prior to an evacuation order are based on the assumptions discussed in section 1.0; actual preparations will vary with circumstances.

1. Industrial Relations will conduct appropriate crisis orientation training and, with Facilities, will survey affected employees to determine transportation circumstances, coordinating as necessary to ensure that all employees and their families will have transportation arrangements made in advance of any evacuation order.
2. The chairman of the emergency planning committee (EPC) will inform the BAC president that a potential crisis exists, based on information from Government officials, and that the company should prepare to activate contingency measures.
3. The BAC President will issue a readiness alert and direct all division heads to assign specialists as needed to support the EPC. (To reassure employees and prevent their overreaction, the BAC president should make a statement over the public address system as well as distributing a printed alert message.)
4. The ECP will immediately prepare a time-phased event-action checklist (sec. 3.0) in which each anticipated "key event" listed will trigger a specific action response. This checklist will be presented to the BAC

president for his approval and, when approved, will be distributed immediately to persons assigned therein to perform the listed actions.

5. The EPC will adjust its contingency plans as necessary to meet the emerging situation and prepare and distribute updated employee information plans. (See attachment B.)
6. Facilities will assign telephone numbers for transportation dispatching and ensure that all company vehicles are fueled, serviced, and ready.
7. The EPC will make final advance party assignments, review lists of support materials, and distribute advance party kits.
8. Finance will initiate emergency arrangements necessary to provide funds in support of relocation operations.
9. The chairman of the EPC will report to the BAC president and local civil defense officials on the status of readiness of the Boeing Space Center and will provide an updated emergency contact roster.
10. Finance and Contracts will record the completion status of all contracts and prepare to move essential records to secure (remote) storage.

## 2.3 CONCEPT

### 2.3.1 Scope of ORP

The plan outlined in this document applies specifically to the Boeing Space Center near Kent, Washington. This organization is located in the Puget Sound risk area. If such a relocation is directed, the employees of Boeing Space Center who live in the risk area (except for those designated in the following paragraph) and their dependents will be relocated to Yakima, Washington. Attachment B provides a map (figure 7) and other details of the Yakima relocation headquarters.

A small cadre of employees (estimated number is 35) designated as essential to the maintenance and security of the evacuated Space Center will be asked to remain on the job pending an actual crisis and to relocate temporarily to pre-arranged living quarters at Enumclaw, Washington, while commuting to the Space Center. (A joint Corporate Federal Government review of the situation may conclude that additional employees are critical to current Boeing national defense

programs, in which case these employees will also be asked to relocate to Enumclaw.) In the event that intelligence provided to the company by Federal authorities indicates that an enemy attack is imminent, the plant will be shut down and made as secure as possible.

### **2.3.2 Employee Roles in Relocation**

As previously noted, only employees living inside the risk area delineated in figure 1 (estimated number is 6,490 plus dependents) are scheduled to be relocated, and then only if they elect to participate in the company's planned relocation. Other employees--those residing outside the risk area (estimated number is 110) and those inside but electing not to relocate with the company (estimated number is 460)-- are to be kept fully informed and urged to cooperate with such local and Federal governmental instructions as are issued to the general populace. It can be assumed that, among eligible employees who initially elect not to participate, some will later change their minds, and vice versa. A key feature of the ORP is the maintenance of a high level of employee awareness of the company's emergency preparations together with up-to-date records of changes in employees' planned participation.

The intent of the ORP is to enable participating families to relocate as units, and it is assumed that most if not all of them will wish to do so. However, since this ORP is only one of many such plans intended to be prepared for a common contingency, and since some households include persons working for two or more organizations (each of which may have its own ORP), it is recognized that some households will have to decide in advance what to do in a real-life circumstance. The EPC will cooperate with employees in this situation and will assist them to arrive at workable solutions.

### **2.3.3 Details of Relocation**

An important preliminary to the general relocation of employees and their families is the advance preparation for their reception at the host location. This is accomplished by the advance party, a preselected group of specialists who will coordinate these arrangements with local authorities at the host area. (See attachment A.) Because of the strain that will be placed on space, facilities, and

services designed only for the care of the resident population, liaison between the advance party and local officials of the host area will be critical to the success of the relocation. For this reason it is essential that the advance party be dispatched to the host area several hours before the anticipated departure of the general relocation group.

The major responsibilities of the advance party in coordination with host-area authorities include assistance in directing relocated personnel to assigned living areas; establishing and setting up a relocation headquarters; assisting in registering relocated personnel into congregate care facilities; and coordinating Boeing support to such community services as medical aid, fire prevention, and security.

The make-up and duties of the two advance parties (Yakima and Enumclaw) vary somewhat; accordingly, they are described separately in the following tables (figures 2 and 3).

The process of instructing employees concerning relocation will occur in two stages: preliminary notification immediately following an advance alert from civil defense authorities and by issuing detailed instructions after area evacuation has been ordered. These two sets of instructions, plus an automobile identification placard including a map to destination, make up the employee information plan. (See attachment B.)

## ADVANCE PARTY--YAKIMA

<u>Position</u>	<u>Responsibilities</u>
Advance party chief	Lead advance party; establish relocation headquarters; act as senior company representative at host area until relieved by higher level management
Security representative	Maintain liaison with-host area police agencies and assist in security functions as necessary
Fire protection representative	Maintain liaison with host-area fire department and provide assistance as necessary
Medical aid representative	Maintain liaison with host-area medical agencies and provide assistance as necessary
Assistant to advance party chief	Assist lodging support officer and organize registration and care of relocated personnel

Figure 2. Composition and Duties of Advance Party--Yakima



## ADVANCE PARTY--ENUMCLAW

<u>Position</u>	<u>Responsibilities</u>
Advance party chief	Lead advance party; establish relocation headquarters; act as senior company representative at host area until relieved by higher management
Security representative	Maintain liaison with host-area police agencies and assist in security functions as necessary
Assistant to advance party chief	Provide staff aid to advance party chief and coordinate among other advance party members and host-area agencies; serve as communications focal point
Congregate care representative	Assist lodging support officer and organize registration and care of relocated personnel

Figure 3. Composition and Duties of Advance Party--Enumclaw

#### 2.3.4 Departure And Arrival

In order to make necessary preparations for the reception and care of the main group in the host areas, it will be necessary for the advance parties to depart prior to the general order for evacuation of the risk area. The local civil defense authorities will alert the chairman of the EPC of an impending evacuation order at least 6 hours prior to the issuance of the order, and the chairman will immediately notify the advance party chiefs to prepare for departure. Upon receiving such instructions, each advance party chief (Yakima and Enumclaw) will:

1. Alert the respective advance party members and direct them to rendezvous at a specified time and place prepared to depart immediately for the designated host area.
2. Contact Facilities and request the vehicles required for the advance party.
3. Telephone the responsible host-area authority with advice of the impending relocation.
4. Ensure that a current roster of all advance party members is made.

In the event an emergency should arise en route, the advance party chief will advise the emergency headquarters at the Boeing Space Center by radio and request assistance.

Proper preliminary training and information to employees, as discussed herein, should prevent premature departure following the evacuation order and ensure the orderly movement of relocated personnel to the host areas. If departure schedules are adhered to, it can be assumed that arrivals will be correspondingly spread out, allowing the registration and assignment of lodgings to occur in an orderly fashion. Upon arrival, relocated personnel will register, receive detailed instructions (see attachment C), and be assigned to congregate care lodgings.

### **2.3.5 Activities At Yakima Host Area**

Crisis relocation is intended to provide not only for the physical survival of personnel but also for the maintenance of a strong, free economy. Accordingly, the company will continue its operations in the host area to the extent that circumstances permit. Economic continuity based on relocated operation depends on the adequacy of prior plans and preparations to ensure that such operations can be carried on with a minimum of confusion and loss of efficiency.

Only those activities deemed essential to national defense and/or vital to the company's welfare will be conducted at the host area. Insofar as is possible, these activities will be transferred and conducted in discrete phases (planning, design, development, production, testing, delivery), as it is assumed that the emergency will be of limited duration.

The effects of the crisis on the availability of human and physical resources will largely determine the level of company operations. The extent to which relocated employees can be released from "living" duties (housing, security, etc.) will be the key to the initiation of company remote operations. The most urgent and time-consuming of these duties is shelter preparation, which is likely to require most of the available manpower in the early phase of the relocation period. Another problem is the obvious lack of stationary equipment--machinery, laboratories, computers, etc.--that cannot readily be moved from the home plant. Also, fuel, vehicles, and portable equipment will, be in short supply and very high demand.

To the extent that circumstances permit, relocated Boeing employees will be called on to support company operations at the host area. All promising alternatives will be considered. Relocated employees who cannot be assigned to such operations will be enrolled in training programs. Coordination will be conducted to determine when and if relocated personnel and equipment can be returned to work, if necessary by commuting from the Enumclaw host area. Plans will also be formulated for returning the Space Center to normal operations.

Functional responsibilities for host area activities (other than company operations) are shown on attachment D.

## 2.4 SUSTAINING OPERATIONS--BOEING SPACE CENTER

Barring a total catastrophe, it is planned that some level of plant operation will continue at the Boeing Space Center following a relocation order. It is also contemplated that employees relocating to Yakima will engage in planning and other activities in preparation for the resumption of work. Because of the range of tactical possibilities (short-term emergency, extended emergency, attack, etc.), the discussion here of such sustaining operations is necessarily general.

Following the relocation order essential workers not evacuated to Yakima (i.e., those living outside the risk area and those to be billeted in Enumclaw) will finish the current 8-hour shift, then phase into a work schedule consisting of two 12-hour shifts per day. This will be accomplished by means of a 10-hour transitional shift on the day following the relocation order. The immediately following night shift will commence the two-shift, 12-hour-day work schedule.

Commuting between Enumclaw and the Space Center will be accomplished by car pools, with full vehicles departing first. Rigorous effort will be applied to ensure maximum utilization of car pools; however, study will be devoted to spacing departures and leaving available seating sufficient to ensure protection of all commuters in the event of accident or breakdown.

At the Boeing Space Center, vehicles will be parked within 5 minutes' walking distance of the work stations of all passengers to ensure rapid evacuation if necessary. Commuting vehicles will be identified by the use of special windshield stickers, including clear directions on the inside surface of the sticker showing travel routes between Enumclaw and the Space Center. Only authorized routes are to be used in commuting (See attachment B for instructions and illustration.) Commuting employees will be provided with special identification to supplement their regular Boeing badges.

Essential employees living outside the risk area and therefore not commuting to Enumclaw will also be provided with personal and vehicle identification and should continue to use regular routes to Boeing Space Center if possible. Car pooling among these employees will also be encouraged.

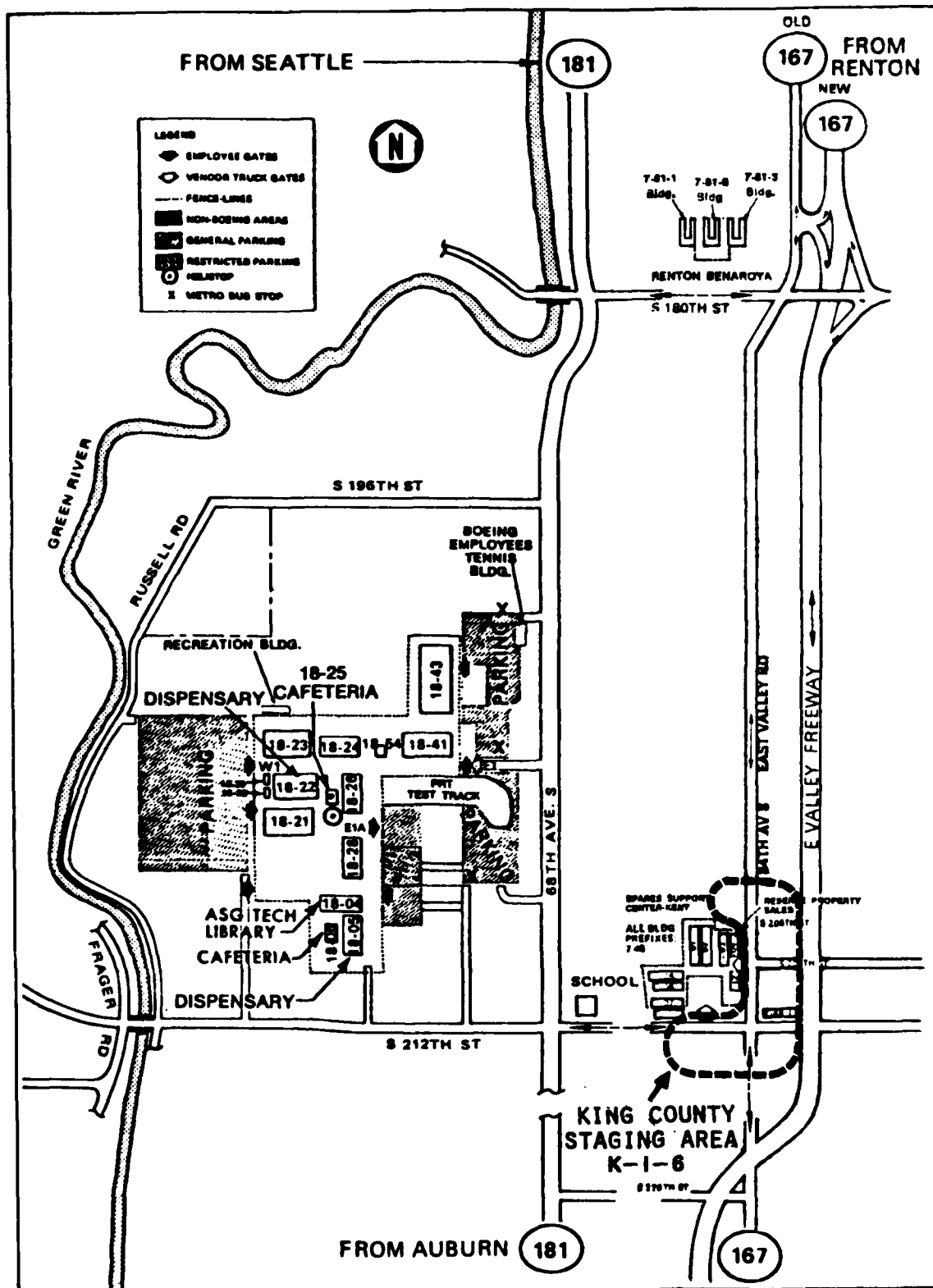


Figure 4. Space Center and Spares Support Center-King County Staging Areas

County staging areas will be designated throughout the risk area (figure 4), each in the vicinity of a cluster of commercial operating facilities. The staging area will provide on-shift services to workers commuting to the risk area during an emergency. These services will include feeding, emergency medical care, and ambulance service, vehicle refueling and emergency repairs, and general support to ongoing operations. The staging area for the Space Center (shown in figure 4) will be used for all meals, with employees eating in two separate groups. Vehicles will be parked within 5 minutes' walking distance.

Since a nuclear attack upon a risk area during emergency operations is a possibility, employees engaged in sustaining operations must be prepared to protect themselves in the event of such an attack. Two courses of action are available to them: tactical evacuation and all-effects shelter. Tactical evacuation involves immediate and rapid departure by a designated route, as indicated on the windshield map of the automobile identification placard, and is the best option when the vehicle is close by and all passengers can get to it immediately. All-effects shelter offers a substantial degree of protection against direct weapons effects--blast, heat, and initial radiation--as well as against fallout radiation. The choice between these two options depends on existing circumstances and must be understood and preplanned by each commuting employee. Assuming 20 minutes of advance warning, tactical evacuation is based on 5 minutes (maximum) to load the vehicle, 5 minutes to reach a high-speed escape route, and 10 minutes to reach a point of safety.

## 2.5 POTENTIAL CRISIS CONDITIONS

The simplest and least disruptive condition anticipated by the CRP is an "alert only" situation in which all employees would be directed to stand by but would not subsequently be instructed to evacuate. This scenario, which assumes the early resolution of a threat through effective negotiations, actually may be the likeliest to occur, according to military intelligence estimates. However, the range of possibilities between this relatively mild inconvenience and a "worst case" is very broad, and any plan contemplating the relocation of an entire urban population would be based on the expectation--or at least the possibility--of a more serious threat.

### 2.5.1 Some Long-Term Scenarios

The following, in increasing order of severity, are some of the situations that could follow the issuance of an evacuation order by the President of the United States.

2.5.1.1 International Tension--A short-term international crisis might be perceived by the President of the United States as containing sufficient threat to the safety of the populace to warrant his calling for evacuation of certain areas, followed soon thereafter by a peaceful solution and removal of the threat.

2.5.1.2 Extended Emergency--It is conceivable that several weeks, rather than several days, might be necessary to negotiate a peaceful solution to a crisis. The effects of this would be the prolongation of inconveniences (in some cases escalating them to hardships) and the severe testing of the practicality of the ORP.

2.5.1.3 Limited Military Action--The prospect of actual attack, which is always inherent in an international confrontation, could materialize but be limited to selected military targets and be followed by a temporary cessation of hostilities and the resumption of negotiations, thus lengthening the emergency period. Conditions following such an event would be extremely tense and uncertain and would be characterized by rampant rumor-spreading and precipitate individual actions. Strong leadership and effective communication would be essential during such a time.

2.5.1.4 Military Attack With Damage to the Risk Area--An actual attack on the Puget Sound area--specifically one inflicting damage on the Boeing Space Center--would be followed by early efforts to rebuild plant capabilities. This might involve the return of key employees needed to repair buildings and replace equipment and the subsequent return of employees assigned to critical military programs. This will be done only after an all clear is given by local civil defense.

2.5.1.5 Saturation Assault Producing Nationwide Crisis--A "worst case" scenario would be a full-scale nuclear attack in which the nation's first-line defenses and most of its major cities would be destroyed. This circumstance, an

extremely unlikely one, would prioritize preservation of human life and leave little or no time for planning the resumption of company operations.

### **2.5.2 Organizational Rebuilding Needs**

All of the situations described in the previous section assume the potential loss or destruction of key resources vital to corporate survival: people, buildings, machinery, materials, and records. Therefore, the fundamental question to be asked when formulating the ORP is: What reasonable steps can be taken prior to an emergency that will best ensure that the company is ability to rebuild and resume operations in the event of a crisis? The ORP discussed herein offers the best hope for the preservation of the work force. Buildings and equipment can be secured to some extent by hardening, a process that can be carried out very quickly at the time of the emergency if properly planned in advance. Vital record storage has been studied since the end of World War II, and Boeing has such a program, as described in Corporate Policy 10B2.

The best hope for the recovery of a stricken company is through effective rebuilding, and the best assurance that rebuilding will be effective is through realistic planning and continuous maintenance and updating of the plan. None of the safeguards discussed above (ORP, site protection, vital record preservation) will be effective unless ready at the moment of need and fully responsive to the threat presented. Such a state of constant readiness is difficult to maintain over time. Just as an automobile engine that has not been run for years may not respond to the first touch of the starter, so the contingency plan that has been laid away and forgotten is unlikely to meet the challenge of the contingency when it arises.

It should also be recognized that the best of plans cannot be expected to endure forever. The crisis shelter plan, which was conceived in the 1950's and is still in service, may be obsolete but the fact that it has never been called on in a real emergency may be the best evidence that it has served us well thus far. Total reliance on shelters seems dangerously outmoded in the light of today's



perceived threat, but, by the same token, organizational relocation may no longer be applicable to current realities in 1995. In the near term, the best civil defense option appears to be one that offers a combination of in-place protection (shelters) and orderly personnel relocation capability.

### 3.0 EVENT-ACTION CHECKLIST

As noted in an earlier section ("Preparation for Evacuation"), a crucial activity that must be performed very early in the emerging crisis is the preparation of a checklist of considered necessary actions to meet the emergency. This is done by the emergency planning committee on the basis of known and anticipated events. So-called "key events" expected to occur are listed, and each is identified as the trigger for a "time-phased" action or response. Thus if the checklist is well conceived (i.e., if it accurately anticipates the significant events that actually do occur), it facilitates rapid and effective reaction. Response time is compressed, the probability of success is enhanced, and confusion is reduced.

It is emphasized that the event-action checklist can only be prepared at the time the threatened emergency is at hand, as the real "key events" cannot be anticipated theoretically. For that reason, the sample event-action checklist (figure 5) should be considered only as typical, not as a true model.

# EVENT-ACTION CHECKLIST

Sequence	Key event	Action (response to event)	By
1	News reports growing US-USSR tension	Employees without personal transportation to host area to contact Personnel Review, update ORP	Industrial Relation EPC
2	Responses to 1, above, received	Arrange ride-sharing; designate bus pickup points, schedules	Facility Transport.
3	Local civil defense authorities suggest "Get Ready"	Notify BAC president review & update advance party list; prepare contingency instructions print auto ID cards	Chairman, EPC EPC
4	Mobilization alert from Federal authority	Notify BAC president of impending evacuation order prepare checklist based on current events ensure all company vehicles fueled and ready to depart give final instructions to and dispatch advance parties	Chairman, EPC EPC Facility Transport EPC
5	Receipt of advice (4, above)	issue readiness alert direct division heads to support EPC	BAC President BAC Pres

Figure 5. Typical Time-Phased Event-Action Checklist

Sequence	Key event	Action (response to event)	BY
6	Evacuation order from President of United States	Order to Boeing Space Center employees to carry out ORP	BAC president
7	Relocation order (6 above)	Employees and families load autos and proceed as scheduled to host areas	Affected employees
8	Threat continues; negotiations proceed	Direct host area activities: Lodging, care, etc. Security, fire, health support to host area authorities company sustaining operations	Advance party chief advance party delegate advance party delegate
9	Relocation extends into third week; hostilities seem imminent	Key employees on critical programs scheduled to return to work	Functional Reps. Ranking Boeing executive host area
10	Negotiations concluded successfully; threat recedes	Step-down ordered: employees and families returned in scheduled stages	Ranking Boeing exec., host area

## 4.0 RESPONSIBILITIES

### 4.1 OFFICE OF THE PRESIDENT--BAC

The Office of the President--BAC will:

1. Communicate with Government representative concerning BAC participation in the area CRP.
2. Coordinate with affected Government agencies to make any necessary changes in BAC program priorities in order to meet existing threat conditions.
3. Approve communications to employees concerning actual or impending emergencies, relocation plans, company operations during emergencies, and related matters.
4. Provide a focal point for contact and communications with host area officials.
5. Appoint advance party chiefs.
6. Direct operations at relocation headquarters as well as at the Boeing Space Center during emergencies.

### 4.2 EMERGENCY PLANNING COMMITTEE

The emergency planning committee will:

1. Plan all details of the ORP applicable to Boeing Space Center.
2. Direct the release of information to employees (through Industrial Relations) and to the general public (through Public Relations) concerning BAC participation in the CRP.
3. Assign functional representatives to the advance parties, with the chairman of the emergency planning committee assuming duties and responsibilities of chief of the advance party--Yakima.
4. Assign responsibility for developing implementing procedures to appropriate functional representatives.
5. Coordinate all external planning with local civil defense authorities.

#### 4.3 PUBLIC RELATIONS

The Director of Public Relations will:

1. Oversee the release of information concerning BAC participation in civil defense plans and activities.
2. Review employee information plans for content and format, including last-minute revisions applicable to an imminent emergency.

#### 4.4 INDUSTRIAL RELATIONS

The Director of Industrial Relations will:

1. Inform employees of potential emergencies and, in the event of an evacuation order, distribute updated employee information plans to affected employees.
2. Establish and conduct an orientation program for members of advance parties and other persons responsible for host-area activities.
3. Appoint Congregate Care Representatives to the Advance Parties.
4. Develop and maintain procedures concerning host area security, fire protection, medical service, food service, and congregate care.

#### 4.5 DIRECTOR of SEATTLE SERVICES DIVISION

The Director of SSD will:

1. Ensure that all plant guards, around the clock, are trained in emergency procedures applicable to a potential relocation and are continually alert for notification of an emergency.
2. Direct the appointment of advance party representatives--security, fire protection, and medical aid and personally appoint the assistant to the advance party chief.

#### 4.6 FACILITIES

The Director of Facilities will:

1. Develop, equip, and staff a transportation program to support employee relocation and commuting to Boeing Space Center in the event of an emergency.
2. Coordinate with the emergency planning committee to develop and maintain a list of emergency equipment for use in the event of an employee relocation.
3. Stock the emergency equipment described in 2 above and preserve it on a stand-by basis; be prepared to load such equipment in company vehicles and depart in a maximum of 2 hours following an evacuation order.
4. Regularly inspect shelter facilities, assigned to company personnel and ensure their proper maintenance.
5. Maintain an up-to-date roster of key employees needed for the maintenance and phase-down of Boeing Space Center.

#### 4.7 CONTRACTS

The Director of Contracts will:

1. Assist the BAC president and officials of the Federal Government to determine program priorities during crisis periods by giving visibility to key contract activities and suggesting or negotiating appropriate contract authorization (e.g., revised work statement, delivery schedule, payment provisions, etc.).
2. Develop procedures, compatible with the concepts described herein, for identifying and preserving vital company records.
3. Report contractual risks inherent in various crisis relocation scenarios.

#### 4.8 FINANCE

The Director of Finance will:

1. Plan and arrange the financial affairs of the company to provide continuity of receipts and payments during and foreseeable conditions attending a Company relocation.
2. Report to the President--BAC on the actual and projected impact of a crisis condition on assets, liabilities, cash flow, etc.
3. Cooperate with financial institutions to develop procedures providing for rapid transfer of necessary funds to a host area business office.
4. Establish an accounting procedure to document costs of emergency services during a crisis.
5. Assist the Director of Contracts in establishing procedures for preserving vital records in anticipation of emergencies.

## ATTACHMENT A

### MAKE-UP AND DUTIES OF ADVANCE PARTIES

The initial function of the advance party at the host area will be the reception and registration of relocated personnel as they arrive, directing each family unit to a housing, or "congregate care" facility previously designated for that purpose. Since the ORP concept calls for the assignment of at least one advance party member to each congregate care facility, the number of such facilities required to house the scheduled number of relocated personnel will determine the number of persons to be assigned to the advance party.

Duties of the various advance party members are as follows:

1. The Advance Party Chief will:
  - a. Provide direction to the advance party during assembly and movement to the host area.
  - b. As senior Boeing representative at the host area, contact the designated senior host area official and arrange necessary details for receiving, registering, and supporting the relocated populace.
  - c. Establish a Boeing relocation headquarters in the facility assigned by host-area authorities.
  - d. Receive and deploy company resources in the host area and ensure that use of resources is in the best interests of the company, its relocated employees, and their families.
2. The congregate care representative will:
  - a. Provide support to the advance party during assembly and movement to the host area.



- b. Register and instruct all relocated personnel and ensure that lists of such personnel are provided to relocation headquarters. (See figure
  - c. Recruit and train the first relocated personnel to arrive in the registration, assignment, and instruction of subsequently arriving relocated personnel.
  - d. Make assignments to key coordinators (see addendum).
  - e. Ensure the orderly occupation of assigned facilities by relocated personnel with a view to best utilization of space, protection of property, safety of personnel, and maintenance of health standards.
3. The security delegate will:
- a. Support the advance party during assembly and movement to the host area.
  - b. Establish contact with host-area police agencies and serve as a contact point for police and other security matters affecting relocated personnel.
  - c. Assist in establishing traffic patterns for arriving personnel, maintaining order during registration, and preserving an orderly environment during the relocation period.
4. The fire protection delegate and the medical aid delegate (who may be the same person) will establish and maintain contact with the appropriate host area authorities and render aid as necessary in their functional specialties to protect relocated personnel.
5. The assistant to the advance party chief will serve as necessary to carry out the duties of the Advance Party Chief and coordinate among the other Advance Party members and officials of the host area.

Each member of the advance party--Yakima will receive, prior to departure, a special equipment kit to assist him/her in the performance of functional duties.

Each kit will include the job descriptions of all advance party members and a copy of the organizational relocation plan (ORP). (The congregate care delegate's kit will include two copies of the ORP and will also contain one copy of the crisis relocation plan (CRP).)

The advance party will be equipped with two portable radio transceivers and appropriate vehicle identification specifically denoting their advance party status. The radios will have frequencies that have been previously coordinated with both the host-area authorities and Boeing Space Center Security. Vehicle radios, where already installed, will suffice for one of the two sets required.

The Advance Party will take with it at least 150% of the number of Registration Forms estimated as sufficient for the scheduled relocation population in order to provide for unscheduled arrivals at the host area. The medical aid delegate's kit will include an ample supply (25% of the estimated relocation population) of medical registration forms to record the medicinal and drug requirements of relocated personnel, an ample supply of stationery supplies should be provided for the needs of relocated personnel including such items as tablets, envelopes, postage stamps, reproducible paper, pens, pencils, staples, staplers, felt markers, poster board, sign-making materials, etc.

Each advance party member will be responsible for bringing essential personal effects, which should include the items previously suggested for all relocated personnel. Each advance party member will be limited to one suitcase for personal effects and one attache case for the special equipment kit described above.

The advance party will travel by assigned company vehicles sufficient to transport all party members with personal possessions and special equipment kits to the limit described in the previous paragraph.

EMERGENCY RELOCATION REGISTRATION FORM

PLEASE FILL OUT this form to facilitate the lodging and care of your family. It will be collected at your assigned facility or building.

OCCUPATION \_\_\_\_\_ ORGN. \_\_\_\_\_

OTHER SKILLS \_\_\_\_\_

\_\_\_\_\_  
Last Name First Name M.I. AGE SEX  
(HEAD OF HOUSEHOLD)

\_\_\_\_\_  
Permanent Address

OTHER FAMILY MEMBERS:

1.	_____ Last Name	_____ First Name	_____ M.I.	_____ AGE	_____ SEX	_____ Special Needs*
2.	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____	_____

\*List special medical conditions or requirements (diet, medication (kind), illness)

Figure 6. Emergency Relocation Registration Form

## ADDENDUM TO ATTACHMENT

### Detailed Responsibilities for Congregate Care

The congregate care delegate of the advance party, who is appointed by the Director of Industrial Relations--BAC, is responsible for general oversight of the reception, lodging, feeding, and care of the relocated personnel while at the host area. specific duties of the congregate care delegate upon arrival at the host area are as follows:

1. Establish contact with the host area reception and care chief and coordinate advance party activities in staffing and operating the registration center.
2. Arrange for use of registration cards to record the skills of arriving personnel.
3. Assign a lodging coordinator at each congregate care facility (see below).
4. Assign a reception coordinator to each congregate care facility (See below).
5. Assign a feeding coordinator for the total relocation population and contact a previously designated food services contractor to make necessary arrangements (see below).
6. Make other assignments necessary to meet the needs of relocating personnel as dictated by existing conditions.

The duties of the assigned coordinators identified in items 3 through 5 above are as follows:

The duties of the assigned coordinators identified in items 3 through 5 above are as follows:

The Lodging Coordinator will:

1. Recruit and train lodging aide from among the relocated personnel at the facility.
2. Be a focal point for all communications concerning lodging arrangements.

The Reception Coordinator will:

1. Establish and maintain alphabetical and functional locator files on all relocated employees.
2. Prepare a lodging roster.
3. List relocated employees by name, organization, job classification, skills applicable to host are needs, etc.

The Feeding Coordinator will:

1. Verify and approve the food service contractor's plan for supplying food for relocated personnel.
2. Assist in structuring a food service distribution system.
3. Act as liaison between relocated personnel and the food services contractor communicating feeding guidelines, assisting the food service contractor work force, etc.

## ATTACHMENT B

### EMPLOYEE INFORMATION PLAN

#### Advance Notification—Potential Crisis Relocation

Due to current international tensions affecting this country, Boeing Aerospace Company has just been informed that a Presidential order calling for the general evacuation of the Puget Sound "risk area" (see map, reverse side) could be issued in the very near future. Those who would be asked to evacuate are persons living within the risk area. BAC has long recognized the possibility of such an action and has made detailed contingency plans for the relocation of Boeing Space Center employees and their families.

Please read this notice carefully but DO NOT TAKE ACTION AT THIS TIME. To do so would disrupt the regional evacuation operation and might expose you and your family to needless inconvenience or hazard. If the potential emergency materializes, you will be given further instructions, and those are the ONLY instructions you should act on. Instructions by the news media will be helpful to the general public but will conflict with specific details of the Boeing Organizational Relocation Plan (ORP) and should therefore be disregarded by participants in the Boeing ORP.

Instructions to be issued later will address three employee groups. the largest, Group A, are employees living in the risk area who are to be relocated in the Yakima "host area". Group B employees are to be relocated in Enumclaw and will be asked to commute to work at the Space Center during the emergency if the situation permits. Group C employees (those who live outside the risk area) will not be relocated but may also be asked to continue work at the Space Center. You have been assigned to Group\_\_.

Make sure that the members of your family are on standby and that your car is fueled and in good running order. Also, acquaint yourself with available shelter facilities near your home.

## **ATTACHMENT B (SUPPLEMENT)**

### **EMPLOYEE INFORMATION PLAN**

#### **Announcement of Crisis Relocation: Group A**

Because of a potential international crisis, the President of the United States has ordered the evacuation of the portion of the Puget Sound region that has been designated as a "risk area." (See map, reverse side.) this announcement confirms previous information given to you and directs your immediate relocation to the Yakima host area, where Boeing Space Center employees and their families will be given congregate care for the duration of the emergency. The information provided in this packet will ensure your admittance at the Yakima relocation headquarters.

An Automobile Identification placard is included in this packet (two placards are provided if you previously advised that you family will be taking two automobiles). Do not lose this ID. Fold the marker and place it securely in the windshield of your car with the identification symbols facing out and the map facing the driver. Follow the route indicated to the Yakima Community College, which is the Boeing relocation headquarters. Police and other officials will recognize this ID and will not need to stop you to determine your destination.

Prepare immediately for departure by packing and loading in your car the things you will need to take with you. Luggage should be limited to one suitcase or less per person, and these should be packed in the trunk with durable boxes or other rugged containers. The following is a suggested take-along list:

Three days' supply of food for each family member, including baby food and special diet needs, if any

Sleeping bags, blankets, sheets, and pillows

Clothing (including work clothes and shoes) for 2 weeks

Necessary medicines and toilet articles

Hand tools and shovel (if available)

Flashlights

Radio (preferably battery powered)

Books, games, cards, toys for children

DO NOT TAKE LIQUOR, DRUGS, OR FIREARMS

Be sure to leave your home secure by making a last-minute check to ensure that:

Doors and windows are locked and drapes and curtains drawn

Electric and gas appliances are off and thermostat set

Water faucets are closed

DO NOT depart until \_\_\_\_\_ at \_\_\_\_\_; this will allow sufficient time for the departure of persons not affiliated with any Organizational Relocation Plan.

Leave precisely at the scheduled time and travel at legal speeds. You should arrive in Yakima in about 5 hours, this timing will facilitate the orderly processing of your party. You will be registered and directed to living quarters and given information concerning meals, laundry, and shelter facilities. Your compliance with these instructions and your cooperation with host area officials will greatly reduce the difficulties of this temporary relocation.

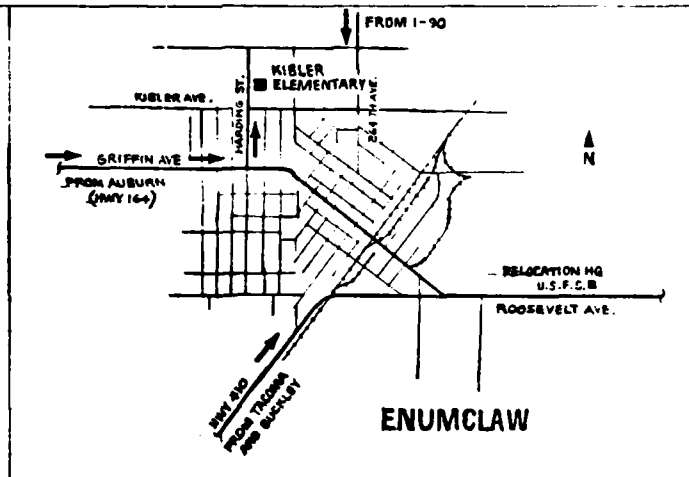
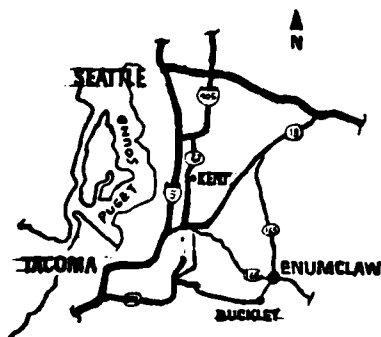


# KIA

FOLD ON DASH LINE

FOLD THIS WINDSHIELD MARKER IN HALF AND PLACE ON UPPER WINDSHIELD BEHIND REARVIEW MIRROR WITH THIS SIDE TOWARD YOU AND TAPE IN PLACE.

THIS MARKER IS FOR EMPLOYEES GOING TO ENUMCLAW



1. TAKE A MAJOR ROUTE TO ENUMCLAW (Don't use side roads)
2. REPORT DIRECTLY TO KIBLER ELEMENTARY
3. ONCE YOUR FAMILY IS SETTLED REPORT TO COMPANY RELOCATION HQ AT FOREST SERVICE BUILDING
4. YOU WILL RECEIVE A WORK TIME AND CARPOOL ASSIGNMENT AT THIS TIME

Figure 7. Automobile Identification Placard--Enumclaw

# YIP B

FOLD ON DASH LINE

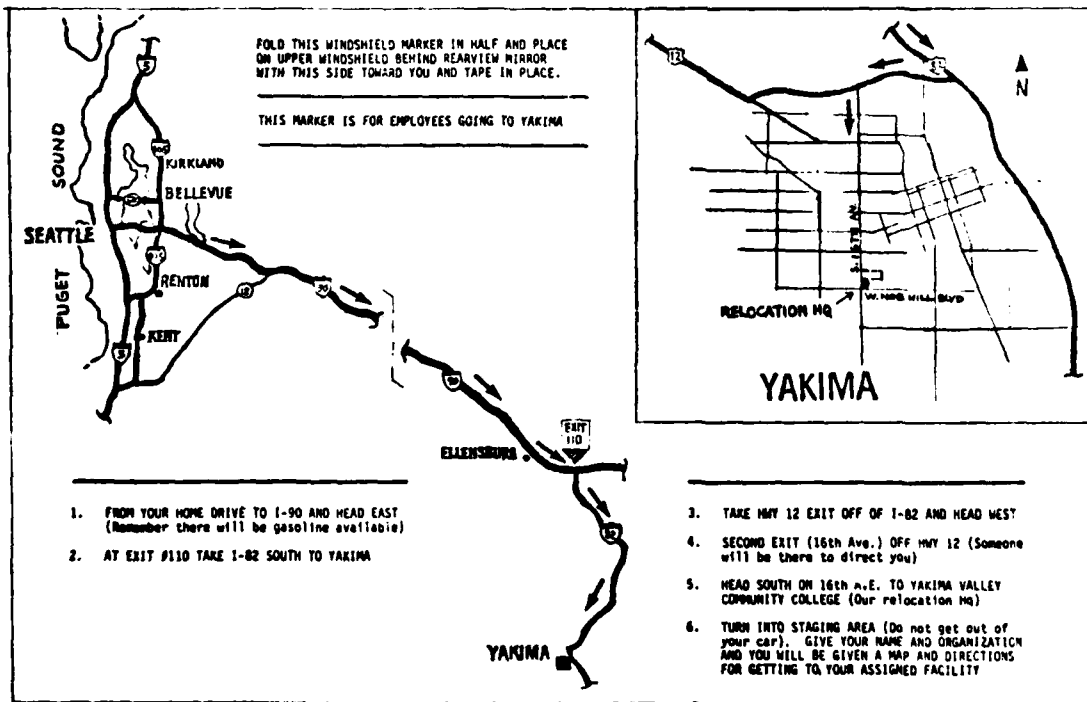


Figure 8. Automobile Identification Placard--Yakima

## ATTACHMENT C

### ORGANIZATIONAL INFORMATION and ASSIGNMENT FORMS

Upon arrival at the Yakima relocation headquarters, each relocated employee will be registered, assigned to a congregate care facility, and provided with essential information concerning the host area. This information which will be printed on wallet-sized cards for convenience in carrying, is exhibited in Figure\_\_.

ORGANIZATION RELOCATION INFORMATION	
Essential Worker Assignment	
page 1 of 15	
<p style="text-align: center; margin: 0;"><b>ORGANIZATION</b></p> <p>Name <u>Boeing Aerospace Company</u></p> <p>Address <u>P.O. Box 3999</u> <u>Seattle, WA</u></p> <p>Phone ( ) _____</p> <p>Official _____</p> <p>No. Employees <u>263</u> No. Dependents <u>526</u></p> <p>H <input checked="" type="checkbox"/> <u>C</u> <input checked="" type="checkbox"/> <u>O</u></p> <p style="text-align: right;">TOTAL EVACUEES <span style="border: 1px solid black; padding: 2px 10px;">789</span></p>	<p style="text-align: center; margin: 0;"><b>HOST JURISDICTION</b></p> <p>County <u>King</u></p> <p>Area <u>I</u></p> <p>District <u>AA</u></p> <p>Lodging District _____</p> <p style="text-align: center; margin: 5px 0;"><b>Lodging District Office</b></p> <p>Building <u>King County Fairgrounds</u></p> <p>Address <u>Roosevelt E</u></p> <p>Phone <u>(206) 825-4881</u></p>
<p style="text-align: center; margin: 0;"><b>RELOCATION HEADQUARTERS</b></p> <p>Supervisor: _____</p> <p>Building <u>U.S. Forest Service</u></p> <p>Address <u>857 Roosevelt E</u></p> <p>Phone ( ) _____ Building No. _____</p> <p><u>(206) 825-2571</u></p>	<p style="text-align: center; margin: 0;"><b>COMMENTS</b></p> <p><u>Assignment under 3/1/79</u></p> <p><u>All workers are essential to</u></p> <p><u>risk area</u></p>
<b>CONGREGATE LODGING</b>	
<p>Building <u>Byron Kibler Elem. School</u></p> <p>Address <u>2057 Kibler</u> <u>Enumclaw</u></p> <p>Phone ( <u>825-2741</u> ) Building No. <u>14</u></p> <p>Capacity <u>809</u> No. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;">789</span></p>	<p>Building _____</p> <p>Address _____</p> <p>Phone ( ) _____ Building No. _____</p> <p>Capacity _____ No. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;"> </span></p>
<b>FALLOUT SHELTER</b>	
<p>Building <u>Byron Kibler Elem. School</u></p> <p>Address <u>207 Kibler</u></p> <p>Phone ( <u>825-2741</u> ) Building No. _____</p> <p>Spaces <u>543</u> Vent <u>139</u> Pump <u>0</u></p> <p>No. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;">543</span></p>	<p>Building <u>City Hall</u></p> <p>Address <u>1339 Griffen</u></p> <p>Phone <u>(206) 825 3591</u> Building No. _____</p> <p>Spaces <u>755</u> Vent <u>412</u> Pump <u>343</u></p> <p>No. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;">246</span></p>
<b>CONGREGATE FEEDING</b>	
<p>Building <u>Byron Kibler Elem. School</u></p> <p>Address <u>Cafeteria</u></p> <p>Phone ( <u>825-5151</u> ) Building No. <u>14A</u></p> <p>No. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;">789</span></p>	<p>Building _____</p> <p>Address _____</p> <p>Phone ( ) _____ Building No. _____</p> <p>No. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;"> </span></p>

Figure 9. Organizational Relocation Information  
and Assignment Forms--Exhibits - A

page _____	
<p style="text-align: center;"><b>ORGANIZATION</b></p> <p>Name <u>Boeing Aerospace Company</u></p> <p>Address <u>P. O. BOX 3999</u> <u>Seattle, WA</u></p> <p>Phone ( ) _____</p> <p>Official _____</p> <p>No. Employees <u>6378</u> No. Dependents <u>18,984</u></p> <p>H X C O _____</p> <p style="text-align: right;">TOTAL EVACUEES <span style="border: 1px solid black; padding: 2px 10px;">18,984</span></p>	<p style="text-align: center;"><b>HOST JURISDICTION</b></p> <p>County <u>Yakima</u></p> <p>Division <u>IV</u></p> <p>R/C District _____</p> <p>Lodging Section _____</p> <p style="text-align: center;">Lodging Section Office</p> <p>Building <u>Yakima City Hall</u></p> <p>Address <u>129 N 2nd St.</u> <u>Yakima, WA</u></p> <p>Phone ( ) _____</p>
<p style="text-align: center;"><b>RELOCATION HEADQUARTERS</b></p> <p>Building <u>Yakima Valley Community College</u></p> <p>Address <u>516th Ave. W. Nob Hill Bv.</u></p> <p>Phone (509) <u>575-2350</u> Building No. <u>Adm. Bldg.</u></p>	<p style="text-align: center;"><b>COMMENTS</b></p> <p><u>7,000 assigned to headquarters.</u></p> <p><u>12,000 to elementary schools</u></p> <p>_____</p> <p>_____</p>
<b>CONGREGATE LODGING</b>	
<p>Building <u>Yakima V. C. C.</u></p> <p>Address _____</p> <p>Phone ( ) _____ Building No. <u>Adm. Bldg.</u></p> <p>Capacity <u>24,000</u> NO. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;">7,000</span></p>	<p>Building <u>District #7 Elementary Schools</u></p> <p>Address <u>(see list)</u></p> <p>Phone ( ) _____ Building No. _____</p> <p>Capacity <u>12,000</u> NO. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;">12,000</span></p>
<b>FALLOUT SHELTER</b>	
<p>Building <u>SAME AS ABOVE</u></p> <p>Address _____</p> <p>Phone ( ) _____ Building No. _____</p> <p>Spaces _____ Spaces after Upgrading _____</p> <p style="text-align: right;">NO. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;"></span></p>	<p>Building <u>SAME AS ABOVE</u></p> <p>Address _____</p> <p>Phone ( ) _____ Building No. _____</p> <p>Spaces _____ Spaces after Upgrading _____</p> <p style="text-align: right;">NO. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;"></span></p>
<b>CONGREGATE FEEDING</b>	
<p>Building <u>SAME AS ABOVE</u></p> <p>Address _____</p> <p>Phone ( ) _____ Building No. _____</p> <p style="text-align: right;">NO. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;"></span></p>	<p>Building <u>SAME AS ABOVE</u></p> <p>Address _____</p> <p>Phone ( ) _____ Building No. _____</p> <p style="text-align: right;">NO. ASSIGNED <span style="border: 1px solid black; padding: 2px 10px;"></span></p>

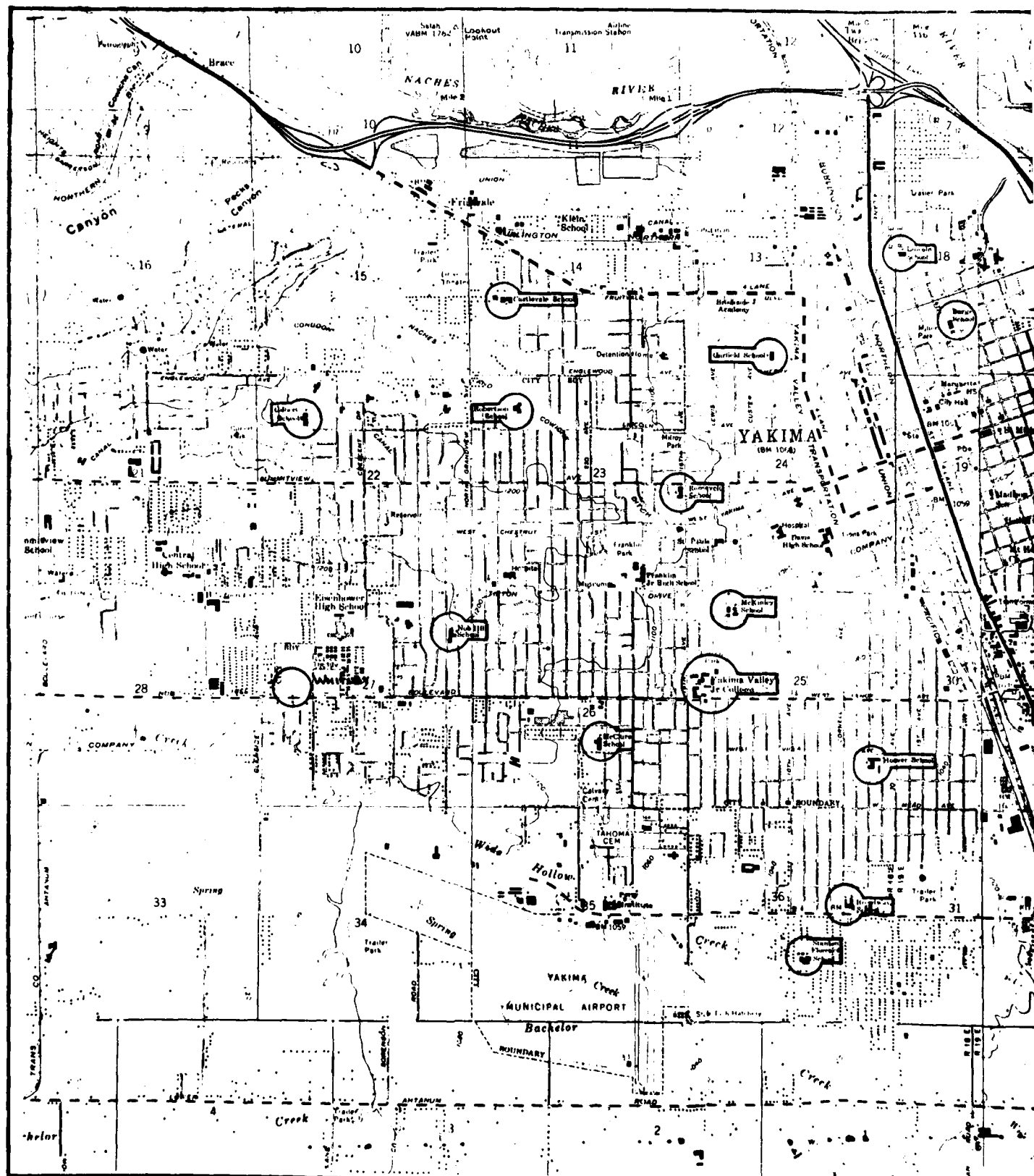
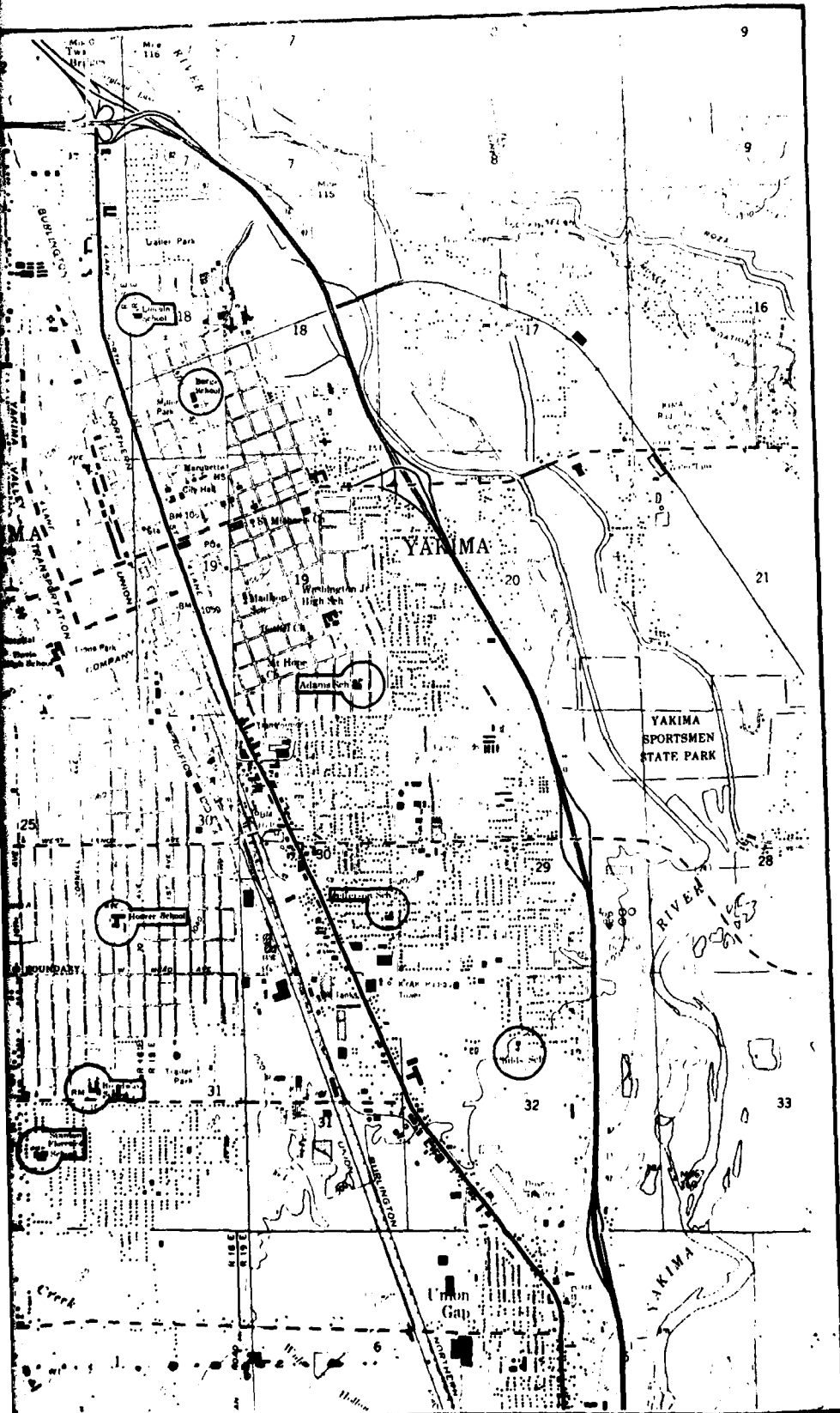


Figure 9 (Exhibit C). Yakima Congregate Care Facilities



2

Elementary Schools--

Adams 723 S. 8th St.  
Barge-Lincoln 219 East I  
Broadway 609 W. Wash  
Castlevale 2902 Fruitvale Bv  
Childs 2000 S. 18th St.  
Garfield 612 N. 6th Ave.  
Gilbert 410 N. 44th Ave.  
Hoover 400 W. Viola  
Jefferson 1600 S. 10th St.  
McClure 1222 S. 22nd Ave.  
McKinley 621 S. 13 Ave.  
Nob Hill 801 s. 34th Ave.  
Robertson 2807 W. Lincoln  
Roosevelt 120 N. 16th Ave.  
Stanton 901 Whitman  
Whitney 4411 W. Nob HI Bv.



# ATTACHMENT D

# FUNCTIONAL RESPONSIBILITIES (Other Than Company Operations)—BO

PHYSICAL RESOURCES	MEDICAL AID	CONGREGATE
<div>Director of Physical Resources</div> <ul style="list-style-type: none"> <li>o Coordinate with gov't. relocation officials on lodging maintenance and standards</li> <li>o Assign Facility Managers for each Congregate Care Facility (one per shift) <ul style="list-style-type: none"> <li>Facility Manager-Facility A (B,C)</li> <li>o Maintain heating, plumbing, power, and structure of building</li> <li>o Assign lodgers (relocated personnel) to specific maintenance tasks</li> <li>o Relocate fixed furniture (e.g., school desks) to meet temporary residence needs</li> </ul> </li> </ul>	<div>Advance Party Del.-- Medical Aid</div> <ul style="list-style-type: none"> <li>o Ensure that medical supplies and equipment, as planned, are transported to the host area</li> <li>o Provide first aid instruction to relocated personnel</li> <li>o Have a fully equipped first aid kit on hand for each Advance Party</li> </ul> <div>Senior Nurse-- Boeing Space Center</div> <ul style="list-style-type: none"> <li>o Ensure that a first aid station is set up in each congregate care facility</li> <li>o Coordinate to ensure proper assignment of First-aid-trained personnel and supplies at each station</li> </ul>	<div>Advance Party Del.-- Congregate Care</div> <ul style="list-style-type: none"> <li>o Contact host area Reception and Care Chief; coordinate registration activities</li> <li>o Assign a Lodging Coordinator at each CC facility <ul style="list-style-type: none"> <li>Lodging Coordinator</li> <li>o Assign Reception Coordinators at each CC facility <ul style="list-style-type: none"> <li>Reception Coordinator</li> <li>o Assign a feeding coordinator for all relocated personnel <ul style="list-style-type: none"> <li>Feeding Coordinator</li> </ul> </li> </ul> </li> </ul> </li> <li>o Make other assignments as necessary</li> </ul>

# any Operations)-BOEING REPRESENTATIVES AT HOST AREA

## CONGREGATE CARE

## SECURITY

## CIVIL DEFENSE

Advance Party Del.-  
Congregate Care

Advance Party  
Delegate-Security

Boeing Space Center  
Business Manager

Act host area  
reception and Care  
; coordinate  
relocation  
activities

- o Serve as Boeing focal point for support of host area public safety functions (e.g., traffic control, personal safety, property protection)

- o Cooperate with host area civil defense officials

Assign a Lodging  
Coordinator at  
CC facility

Lodging  
Coordinator  
Facility A(B,C)

- o Ensure the assignment of a security monitor to each congregate care facility

- o Ensure assignment of adequate numbers of relocated employees to civil duties

- o Assign Lodging Aid
- o Act as focal point for communications re lodging

- o Coordinate with host area officials on shelter requirements and provide all available personnel to build and prepare shelters

Assign Reception  
Coordinators at  
CC facility

Reception  
Coordinator-  
Facility A(B,C)

- o Establish and maintain locator files on personnel (all relocated personnel)

- o Review plans for assignment of company vehicles to host area use

- o Prepare lodging roster
- o List relocated employees by name, organ., job classification, skills

- o Ensure that vehicle drivers and equipment operators are instructed in crisis relocation procedures and guidelines

Assign a feeding  
Coordinator for  
relocated  
personnel

Feeding  
Coordinator

- o Coord. with food service contractor; approve feeding plans
- o Assist in designing food distribution system
- o Act as liaison between relocated personnel and food service contractor

- o Maintain guidelines to reflect changes in equipment inventory and crisis relocation plans

See other assign-  
ments as necessary

### 3.2 REVIEW

#### 3.2.1 Boeing Senior Management Council Review

##### MINUTES OF MEETING

PLACE: Special Projects Conference Room

DATE: 8 August, 1979 - 1:30 p.m. to 4:00 p.m.

PURPOSE: Review of draft ORP and simulation of corporate review and approval process.

ATTENDEES: T. K. JONES  
W. R. JURY  
G. K. URQUHART  
C. P. HAGBERG (for W. C. LINSCOTT)  
J. H. MCGOWAN  
J. M. MILLER  
I. J. CARNEY  
P. J. PARHAM

Prior to the review the ORP team presented the 80% review to the council members and invited their comments. After the walk-through of the 80% review the council members gave their comments and observations regarding the draft organization relocation plan.

##### T. K. JONES Comments:

- o Crisis Relocation as it is being planned by the government increases the vulnerability of the population. Evaluation of the plan should tell FEMA this fact.
- o The government and our COTR may be correct that 80% - 90% of the people in the host area would be gracious hosts, but it is the 5-10% that will cause the problems.

- o There are areas of the plan which appear to be a plan for a plan, i.e., "I.R. will conduct appropriate training." A more explicit plan should have been made. Should have someone see if they can develop procedures under general plan direction.
- o Training is inept - training for host area care cannot be done at the last minute and still accommodate the influx of people.
- o The guidelines and the plan makes no mention of radiation or survey teams. DCPA knows those will be necessary but makes no mention of them.
- o The tactical evacuation mentioned on page 19 would probably not work since the valley is full of aim points, including this facility.
- o The guidelines are fallacious in that it makes Yakima a target by sending all our aerospace workers there. We need to spread the population thin enough so that it is not feasible to target the population. Russian military doctrine says the skilled industrial workers are a target.
- o The planning for crisis relocation by an organization should be accomplished by Federal regulation and not just Federal subsidy.
- o Some parts of what the guidelines tell us with regards to supplies, transportation and the like should be scrutinized and reviewed so that we have more confidence in what government is telling us.

W. R. JURY Comments:

- o To make the ORP work, a high level of employee awareness about the plan will have to be maintained.
- o Wonder how you (a company) can keep your employee from a premature evacuation. Communication may well be the key to not only getting the word out to people but also convincing them that they should wait and go with us at the right time.

- o Under the employee information plan, you request that the people not bring firearms with them - doubt that this would happen.

C. P. HAGBERG (for W. C. LINSOTT) Comments:

No particular comment but agreed with many of the points raised by both T. K. Jones and W. R. Jury.

G. K. URQUHART Comments:

Submitted his comment in written form (see following memo).

July 20, 1979

To: E. K. Muller

Subject: Draft Organizational Relocation Plan

Reference: Memo 2-3598-0000-040 dated July 17, 1979, E. K. Muller to G. K. Urquhart, Same Subject

As an evacuation plan for the protection of employees and their families, the concept of the Organizational Relocation Plan is practical. I doubt, however, that it is practical to expect that operations would be effectively continued at the host area in Yakima. This is particularly true for production, testing and delivery. (Reference Section 2.3.5 Activities at Yakima Host Area).

The plan provides that employees and their families will travel to the Yakima host area in their own autos. It is doubtful that many autos would be fully fueled even though the advance notification (B-1) instructs employees to be sure their auto is fueled and in good running order. Fuel may not be readily available during a period of crisis either in the Puget Sound risk area or enroute to Yakima. There is a statement on figure 8, page B-5, that says "Remember there will be gasoline available" but there is no mention in the plan of where or when or under what circumstances.

Sequence item 9 on page 24 is "Relocation extends into third week; hostilities seem imminent." The action in response to this event is "key employees on critical programs scheduled to return to work." Since the purpose of the relocation is to protect employees, it seems incongruous to return them to work if hostilities seem imminent.

G. K. Urquhart

### 3.2.2 Review by FEMA Headquarters Washington, D.C.

Office of Plans and Preparedness  
Washington, D.C. 20301

August 22, 1979

1. Page 1 - first paragraph

It is incorrect to indicate that the civil defense program for in-place protection (which is incorrectly listed as Crisis Shelter Plan instead of Community Shelter Plan) was a system of hardened shelters. The program involved making use of best fallout protection available in existing buildings. It was not oriented to blast protection.

2. Page 1 - 4th line from bottom

Change "suddenlty" to "suddenly"

3. Page 2 - 2nd paragraph

Suggest change to read "The United States is developing a similar stance for two reasons..."

4. Page 2 - line 19 (last sentence 3rd paragraph)

Insert ("for nuclear preparedness") immediately after "no evacuation" to be accurate.

5. Page 7 - line 8

The assumption under CRP is that the President will request CRP to be implemented and that the Governor ~~of the State~~ will order the

.....

evacuation. Thus your first paragraph needs to be advised by deleting "order" and replacing it with "request."

6. Page 7 - line 10

You can cooperate with governments or comply with plans and directives; you cannot cooperate with plans and directives as stated in this second paragraph. Suggest revision to making government plural and deleting "plans and directives."

7. Page 8 - last line

Change "orders" to "request."

8. Page 9 - paragraph 2.2 Item 4

Normally one would expect a checklist to be prepared in advance of the event and not after the event has occurred as stated here.

9. Page 19 - 2nd paragraph

From a practical point of view I see no advantage to discussing tactical evacuation for essential workers as done here. The text should concentrate on what has been done to provide workers with blast protection in or near their places of work. It is not practical to expect that workers can tactically evacuate from the risk area upon receipt of attack warning.

10. Page 21 - 4th line from bottom

Suggest replacing "crisis" with "community" and "1960's" for "1950's" since CSP was not introduced until the mid 1960's.

11. Page 22 - line 8

Change "preparatioin" to "preparation."



12. Page 23 - last event

Change "Receit" to "Receipt."

13. Page A-2 - 2nd line from bottom

Change "Cheif" to "Chief."

### 3.2.3 Review by FEMA Region 10 Bothell, WA

#### MINUTES OF MEETING

PLACE: FEMA Regional Offices, Bothell, Washington

DATE: 24 August 1979

PURPOSE: Presentation of 80% Review briefing - and ORP Review

ATTENDEES: N. V. CHANEY  
H. FLINT  
L. PRATT  
F. BAKER  
J. M. MILLER  
I. J. CARNEY  
P. J. PARHAM

The Boeing ORP Team presented the 80% Review briefing which they had given FEMA Headquarters the prior week in Washington, D.C. After the briefing Frank Baker verbally reviewed the comments and critiques. He then stated that he would provide a written response to our request for review. This response is the official review of the ORP and is attached.

FEDERAL EMERGENCY MANAGEMENT AGENCY

REGION X

Federal Regional Center

Bothell, Washington 98011

Mr. Paul Parham  
Boeing Aerospace Company  
P.O. Box 3999, MS 8A-04  
Seattle, Washington 98124

Dear Mr. Parham:

As you requested, the following are our comments on your draft Organizational Relocation Plan.

General Comments

1. In your evaluation of the workability of the plan you do not adequately cover the problems caused by bringing your people to a staging area while the rest of the population may be already evacuating in a different direction.
2. You do not adequately cover the problems caused by spontaneous evacuation.
3. Very little mention is made regarding the actual movement of employees and dependents to a host area. The majority of the plan deals with corporate actions to ready the Kent facility for shutdown, executive actions, and responsibilities; advanced party host-area functions; and corporate reorganization in the host area. Attachments B1 through B5 are the only instructions for employee relocation.
4. The several labor unions representing Boeing employees are not mentioned in the plan. The company needs the support and involvement

of these unions in any attempted organizational relocation. This should be addressed in the plan.

#### Specific Comments

Page 1 - The correct terminology is Community Shelter Plan, not Crisis Shelter Plan.

Page 3 - ...The Federal Government's CRP.... This is the first mention of CRP and should be spelled out.

Page 9 - Item 4 states a "time-phased event action checklist will be prepared." Shouldn't this checklist be prepared before the readiness alert is issued (as called for in Item 3)?

Page 10 - Item 6--The assignment of telephone numbers could be done much earlier (before Item 3 "readiness alert").

Page 15 - Boeing assumes they will receive six hours' advance warning of crisis relocation from local civil defense, at which time an "advanced party" would be dispatched to Yakima. It is doubtful Boeing would receive any advance notification of crisis relocation. Perhaps an advanced party should be sent to Yakima during the increased readiness period.

Page 19 - Boeing proposes the use of a staging area less than one mile from the Kent plant for feeding, medical aid, vehicle refueling and repair, etc. Since the staging area is so close to the plant, why not use the plant and its facilities as a staging area?

Page 23 - Event-Action Checklist--All movable resources not essential to the emergency period should be identified, prioritized, and moved to Enumclaw or some other site. This includes office equipment, machine tools, office and production supplies, rolling stock and any other materials that could be used to rebuild the company and the economy.

Attachments B1-B5 - The instructions indicate Boeing employees are to disregard public instructions to relocate and await relocation orders from Boeing. How does Boeing propose to notify workers on second and/or third shift to relocate if the relocation is recommended during first shift (7:30 a.m. to 4:30 p.m.)?

Sincerely,

Neale V. Chaney  
Regional Director

3.2.4 Review by State of Washington, Department of Emergency Services,  
Olympia, Washington

MINUTES OF MEETING

PLACE: Department of Emergency Services Conference Room

DATE: 22 August, 1979 2:00 p.m. to 5:00 p.m.

PURPOSE: Review of draft ORP and presentation to state of 80% Review  
briefing

ATTENDEES: B. J. McCLELLAND  
J. M. THOMAS  
J. E. HALL  
J. AGGERGAARD  
B. L. DEW  
J. M. MILLER  
I. J. CARNEY  
P. J. PARHAM

The Boeing ORP team presented the 80% Review briefing which they had given FEMA Headquarters the prior week in Washington, D.C. After the briefing, the state gave their review of the draft ORP as well as general thinking regarding emergency planning and crisis relocation.

B. J. McCLELLAND'S COMMENTS:

- o Consumer requirements are critical to the whole CRP concept. You may get the people out; but if you have not worked out the movement plan for the redistribution of consumer goods, you will have major problems in the Host Area. A major shortcoming of Federal NCP planning is in the area of consumer support goods.
- o Both John Macy (director of FEMA) and herself are very concerned about lack of emergency communication to the citizens on a nationwide basis. Both would like to implement a full-blown EBS System

nationwide. An EBS beeper system could alert everyone in their home or apartment.

- o The CHAT system, which relies on "word of mouth" communication between households, is promulgated on the assumption that someone in all areas of the country would be listening to radio or television at all times; and they will cascade the information to their neighbors. John Macy is very skeptical about this system working and has ordered research on it dropped.

J. E. HALL'S COMMENTS:

- o The inclusion of essential industry in crisis relocation planning is imperative for an economic recovery.
- o Boeing should consider a pre-registration plan as a possible modification to the ORP. Registration of people in a host area is very time-consuming and adds to the general confusion.
- o Opening statements about CSP program in the ORP read as general propaganda out of DCPA and not true company thinking.
- o Specific Comments by pages:
  - A. p. 25(4.2.2) -- information to the general public should be released in coordination with state.
  - B. p. A-2 -- Advance Party duties should include assigning personnel to radiological monitoring
  - C. P. A-4 -- Emergency Relocation Registration. Registration could and should be filled out in advance and made a part of the Kit.
  - D. p. B-1 -- regarding EIP last sentence regarding location of shelters add "by contacting your local emergency services director."

J. AGGERGAARD'S COMMENTS:

- o Plan calls for crisis relocation to last from one to three weeks; current thinking is it may last longer than that.
- o The communication aspects of the plan do not address what would happen if the crisis were to occur at an inopportune time.
- o Specific comments by page:
  - A. p. 1 -- term is Community Shelter Plan not Crisis Shelter Plan, and the concept was for radiological fallout shelters not hardened blast shelters.
  - B. p. 1 and 2 correct term should be Soviet Union and not Russia. Also the number of people that can be sheltered is only 40% and not the entire population.
  - C. p. 3 -- With regards to a Federal CRP would doubt whether the Federal government has one; probably more of a policy than a plan.
  - D. p. 8 -- Advance parties should have remote headquarters established in the host area prior to the time of relocation being ordered.
  - E. p. 13 and 14 -- The Advance Party Chief should also maintain radio contact with the Emergency Services Director in Yakima.
  - F. p. 15 -- Should coordinate relocation times with host area.
  - G. p. 17 -- Company may want essential workers living outside risk area to relocate to Enumclaw where there is better control and car pooling.

J. M. THOMAS' COMMENTS:

- o Host area government will not allow a semi-autonomous group to come into an area unless it is clear that they are answerable to local government.



o Specific comments by page:

- A. p. 2 -- Joint relocation between U.S. Government and Company leaves out local entities.
- B. p. 3 -- Need to explore what one priority would be if the emergency highway traffic regulations were enforced.
- C. p. 11(2.3.2) -- Employees may receive instructions and be asked to cooperate with State government as well as local and federal governments.
- D. p. 19 -- Do not believe that tactical evacuation will work - should call for blast shelter.
- E. p. 24 -- Boeing should coordinate host area activities with local civil defense director.
- F. p. 25 -- Plan should spell out that office of the President is the focal point for all levels of contact with local, state, and federal.
- G. B-2 -- Employee Information Plan should be changed to reflect the following things:
  - 1. People should take as much food as possible instead of 3 days supply (whatever that is).
  - 2. Turn water off at meter.
  - 3. People should not be discouraged from bringing either liquor or guns since they may need both in a crisis situation.

### 3.2.5 Review by King County Labor Council, Seattle, Washington

#### MINUTES OF MEETING

PLACE: Labor Temple, 2800 First Avenue, Seattle, Washington

DATE: 22 August 1979 10:00 A.M. to 11:00 A.M.

PURPOSE: Task 4 Interchange meeting to gather the King County Labor Council's findings following their review of the prototype Boeing Space Center ORP.

ATTENDEES: J. K. BENDER  
R. S. BENDER  
I. J. CARNEY  
U. JAYARAMAN  
W. M. LOKEY  
J. M. MILLER  
P. J. PARHAM  
W. R. PUGNETTI

The King County Labor Council had the following comments after reviewing the prototype Boeing Space Center ORP.

#### J. K. BENDER COMMENTS:

Wondered about the capability to contact workers if the notice to evacuate occurred on a weekend or other inopportune time. He went on to mention that the unions have a call down list that enables them to reach most of their people at anytime.

How would Boeing interface with other industries that were evacuating at the same time and possibly on the same roads?

The plan does not fit the retail and wholesale industries as well as it should, in that food and supplies have to be the first things to go to the

host area. He believes food and bedding will be the major host area material concerns in a relocation.

R. S. BENDER COMMENTS:

The ORP concept will not work for all types of industry and the construction industry in particular.

No employee representatives are on the Emergency Planning Committee. Employee representatives should be included in the Emergency Planning Committee, and the same situation applies to the advance party.

Concerned with what types of training programs would go with the ORP. Will there be training of management, employees, or what? Boeing response: No training program went with the ORP.

Will essential workers be determined by management or by the employees? Boeing response: Essential positions were identified, but deciding which people would fill them was not addressed.

Why does Boeing have different responsibilities in one host area than the other? He thought they would be about the same. Boeing response: Due to the difference in numbers going to each area, the responsibilities would be different.

Concerned that the advance party does not leave earlier.

Concerned whether or not employees would be willing to stay while others were leaving town.

Concerned if the 35 risk area workers would have a blast shelter to protect them in case they did not have time for tactical evacuation.

W. M. LOKEY COMMENTS:

Concerned if paychecks would be continued as an economic incentive for employees to participate in the ORP.

Concerned about a banking system collapse if everyone wanted to withdraw their money.

**ATTACHMENT A**  
**Host Area Study**

## SUMMARY

As a result of following federal guidelines in preparing and evaluating an Organizational Relocation Plan, major areas of concern untreated in the draft federal guidelines, were uncovered. The (Part V of Guide for Relocation -- Contingency Planning) guidelines did not address the role or relationship an organization would have in a host area. Subsequently, Boeing was asked to conduct an exploratory analysis on what functions an organization could perform in a host area. The analysis used existing data together with discussions with local governmental emergency services officials. This report is the written documentation of that study.

From the results of this and other studies, it can generally be concluded that ORP is a valuable part of the entire CRP process. Its role in emergency planning, however, needs to be clearly defined and developed. Involvement of the private sector is essential to both fully exploit available resources and to lend credibility to the CRP concept. Vital to this involvement is the establishment of an effective coordination process between organizations and host and risk areas officials. This process should lead to a planning effort which has the needed realism and practicality to accommodate large organizations. It should also lead to a method of testing each ORP before an implementation might be necessary.

On the government side it appears clear that local agencies feel that they have been left out of the planning process both in conceptual review as well as having an actual part in plan development. Added to this perceived lack of involvement there is a conviction among local-elected officials that CRP is not beneficial for the nation and, therefore their constituents. Coupled with these problems of involvement is the general issue of public confidence. Public acceptance of the entire relocation idea must be based first on effective communication with local-elected officials and then with the public in general.

## Recommendations

As anticipated, the study raised questions to which there are, at present, no answers, since CRP and ORP have not been fully defined and presented to the public and, therefore, their acceptability cannot be predicted. The present Part V

guidelines form a useful basis for further concept development, but they must be expanded to clearly address all three phases of relocation:

Phase I--the evacuation from risk areas

Phase II--organization activities in the host area

Phase III--post crisis restoration and return activities

The following are specific recommendations for future action:

1. Perform an in-depth study and tabletop exercise to develop Phase II guidelines.
2. Perform a similar study and exercise for Phase III.
3. Revise the present Phase I guidelines and consolidate the resultant data (from 1 and 2 above) with the revised guidelines and develop a comprehensive approach to the total relocation/sustaining/recovery process.
4. Consolidate 1,2, and 3 above into an overall revision of the guideline thereby developing a comprehensive approach to the total relocation/sustaining/recovery process.

## BACKGROUND

As a part of Task 5, Boeing performed an evaluation of the Part V Guidelines after development of a prototype ORP. This evaluation identified several areas of concern that were not covered by the guidelines, the most critical being the organizational interface with host area authorities. Since this relationship is considered essential to the realism of the ORP, the matter was discussed with the Contracting Officers' Technical Representative. As a result of these discussions, the COTR instructed Boeing to conduct a tabletop study of host area interfaces and the requirements that might prove necessary for the development of a host area operations plan. This study has been completed, and the results are presented within this report.

## METHODOLOGY

The host area study was addressed first by compiling expert knowledge in the field of emergency planning and then comparing that knowledge with internal company data used in developing the draft organizational relocation plan. Taking general direction from a prepared guideline checklist, the ORP team then met with individuals from the State of Washington - charged with risk area and host area planning responsibilities. In separate meetings, Boeing met first with the directors and staff of King County Office of Emergency Services (representing the risk area) later a joint meeting with King County and the Departments of Emergency Services of Chelan and Douglas Counties representing the host area. Also attending those meetings were representatives of the State Department of Emergency Services and FEMA Region X. The meetings were productive in that they generated a number of useful observations regarding CRP and ORP and contributed to the formulation of checklists for governmental coordination and internal organizational operations.

Following are the conclusions and observations, resulting from the study, and Tables 1 and 2, the procedural and planning checklists:

## CONCLUSIONS AND OBSERVATIONS

1. There is presently no clear vision of what an organization's role would or should be in emergency planning and implementation.



2. Local governments charged with emergency planning and implementation believe that they have had little or no voice in what has been done to date on crisis relocation planning.
3. Local government officials are of the opinion that involvement by private organizations in emergency planning is beneficial not only because of the resources they possess but also because of the credibility that private organizations have with local elected officials.
4. The key to establishing an organization's role in host area planning is the creation of three-way coordination between the organization and officials of both risk and host counties.
5. The fact that coordination must take place to properly prepare a plan suggests that, in the case of large organizations, an extremely realistic appraisal of the required effort is essential to success. The plan must be one that both the organization and the local government consider to be practical and implementable.
6. There is general agreement, both in private and government sectors that a plan must be tested before being adopted.
7. Local elected officials are the key to emergency planning and services. Unless they perceive direct benefit for their constituencies, they will be reluctant to commit time or money to the effort.
8. Organizational relocation is the most logical and workable approach to crisis relocation planning and is the key to CRP. The ability of affected organizations to meet with local government heads and discuss their plans and requirements will ultimately determine whether crisis relocation of urban populations is a viable concept.
9. Host Area Manpower will be limited therefore, it is essential that trained security guards such as are normally maintained by a large organization join in a mutual aid agreement with county security officials of the risk area in which they are located. The risk and host areas would have to work out reciprocal aid agreements on a county-to-county basis.

## CHECKLISTS

Table 1 outlines coordination steps with local government in developing a host area operations plan. Table 2 shows the detailed planning elements that must be negotiated with host area officials to establish a coordinated operations plan. The primary goal of such planning is to ensure adequate care for evacuee needs with the least possible impact on the host area life style and economy. This goal can best be attained by the organization's self-sufficiency and ability to provide supplementary manpower to host county agencies. All organizational activity must be carried out under authority of, and subject to direction by, appropriate local officials of the host area.

Table 1. — ORP Procedural Checklist — Coordination

<u>STEP</u>	<u>RESPONSIBLE AGENCY</u>	<u>ACTION</u>
1.	FEMA or State (Whichever is designated area CRP coordinator)	Prepare preliminary host area assignment and present to organization
2.	Organization	Review assignment (1, above), determine acceptability and consult with the coordinating agency
3.	Organization	Schedule and participate in meeting with host area elected officials; notify officials that ORP is in process and solicit suggestions
4.	Organization	List resources (supplies, equipment, and manpower); identify resources that are vital to organization's operation, either in risk area or host areas
5.	Organization	Submit inventory (4, above) to risk area officials, identifying resources that are (a) vital to organizational operations and these that are (b) available to risk area government
6.	Risk area officials	Review mutual aid agreements and security needs; meet with host area officials to allocate available organizational resources between risk and host area.

<u>STEP</u>	<u>RESPONSIBLE AGENCY</u>	<u>ACTION (continued)</u>
7.	Planners from risk area, host area, and organization	Conduct joint planning to establish lines of authority and responsibility, policy, communication/information, management continuity, transportation, secondary dispersal plans, and other related problems.
8.	Officials of risk and host areas and organization	Test plans made in 7, above, in a tabletop (or other) exercise
9.	Officials of risk and host areas and organization	Submit plan for management, FEMA, and State approval
10.	Organization	Review, maintain, test, update, and refine ORP on an iterative basis

Table 2. — Organization Planning Host Area Activities Checklist

<u>STEP</u>	<u>SUBJECT</u>	<u>ACTION</u>
1.0	<u>Evacuee Requirements</u>	
1.1	Quarters	Coordinate with local (host area) authorities to assign living quarters
1.2	Food service	Assign kitchen facilities in evacuees' quarters (or provide field kitchens if necessary)
1.3	Emergency medical service	Determine first aid needs for all assigned quarters; determine whether equipment and supplies are to come from organization or county
1.4	Fire protection	determine most suitable equipment for assigned quarters (alarms, extinguishers, hose stands, sprinklers, etc.)
1.5	Security	Coordinate with local law enforcement agencies to develop suitable safeguards for the security of evacuees and their belongings.
1.6	Safety	Plan initial safety inspection of assigned quarters upon occupancy; construct and/or install safety railings, barricades, security locks, partitions, etc., as needed; schedule periodic inspections to maintain safety standards

<u>STEP</u>	<u>SUBJECT</u>	<u>ACTION</u>
1.7	Counseling	Plan to provide counseling service to meet special needs of evacuees
2.0	<u>Evacuee Manpower Utilization</u>	
2.1	Support to host agencies	Coordinate skills available through the organization's resources that will meet host area needs and supplement county staffs; incorporate this commitment in the ORP
2.2	Food preparation	Enlist culinary skills from evacuees; plan menus and provisioning to meet special circumstance (nutritional needs, food preservation, preparation, and serving); plan, schedule, and equip kitchens to provide essential food services
2.3	Medical services	Assign organization medical staff to support evacuees and operate aid stations; coordinate adequacy of such assignment with local health authorities; plan, equip, and conduct training to deal with medical emergencies
2.4	Fire protection	Assign fire protection specialists to equivalent duties in the host area; coordinate such assignments and deployment of equipment with host area fire protection authorities

<u>STEP</u>	<u>SUBJECT</u>	<u>ACTION (continued)</u>
2.5	Security	Assign security specialists to equivalent duties in the host area; obtain official assignments from local law enforcement authorities, who will also delegate levels of authority and applicable limitations
2.6	Safety	Assign safety specialists to equivalent duties in the host area; coordinate with local authorities to determine adequacy of preparations
2.7	Building maintenance	Maintain evacuee quarters to meet shelter, safety, comfort, and general living specifications. Develop data to determine manpower needs
2.8	Accounting	Coordinate with host area authorities to record consumption and use of supplies, equipment, and services.
2.9	Work parties	Provide manpower to accomplish daily tasks such as janitorial duties, KP, garbage disposal, cleanup, etc.

<u>STEP</u>	<u>SUBJECT</u>	<u>ACTION (concluded)</u>
3.0	<u>Resources</u>	Apply to responsible host county (or State) officials for needed equipment and resources that the organization is unable to provide
4.0	<u>Logistics and Supply</u>	Participate in distribution and preparation of food, provision of services, and facility maintenance; negotiate acquisition and delivery of supplies (e.g., food, beverages, clothing, bedding, fuel, and medical and maintenance supplies) with local agencies
5.0	<u>Utilities</u>	Obtain communication services, power, water, and other utilities as needed through negotiation with local utility agencies; preplan for requirements that the organization cannot provide by conducting preliminary meetings with host area officials



## RECOMMENDATIONS FOR FUTURE ACTIVITIES

The study in many ways raises more questions than it answers, as is proper for such an exploratory analysis. The concept of crisis relocation contingency planning including an organizations role, is still being defined. The current instruction for organizational relocation planning, Part V of Guide for Crisis Relocation-Contingency Planning, addresses only one aspect of the total emergency planning picture: evacuation of employees and their families from a risk area. We now know that if the guidelines are to be comprehensive, complete, and effective, they must also address the role of an organization whose members are living in a host area as well as the necessary organizational activity regarding restoration and return to the risk area. Organizational relocation planning should consist of three phases: (a) Phase I, evacuation; (b) Phase II, host area activities; and (c) Phase III, restoration (of the host area) and return of evacuees.

The guidelines for Phase I need some refinement, clarification, and reordering, but they exist and presently serve as a basis for further development and for the incorporation of Phases II and III. The following recommendations are submitted for further development.

1. The Host Area desktop exercise should be followed by (a) an in-depth study using real locations and (b) a tabletop exercise to develop and test procedures and guidelines for host area activities.
2. An in-depth study regarding restoration of the host area and the return of evacuees should be prepared. This study should use a real location and tabletop testing which will lead to preparation of the necessary guidelines.
3. Revise the Phase I Guidelines by refinement, clarification, and reordering of the evacuation planning process in conformance with the evaluation completed as a part of the present contact.
4. Once guidelines and procedures described in 1 and 2 above are finished for Phases II and III, they should be blended with Phase I planning (3) to provide a complete and comprehensive set of current guides for organizational relocation planning as a part of a crisis relocation planing.

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#### Abstract

Crisis relocation is a form of civil defense which involves evacuating major cities if war threatens. Organizational relocation (OR) could be an important part of crisis relocation. Many organizations, especially large firms, have the means to move employees and dependents. This study evaluates the OR concept and the guidelines for preparing specific organizational relocation plans (ORP). Private-sector industrial planners followed the written instructions, acquired data from various sources, and prepared a prototype ORP for a representative facility employing 7,000. The plan covers movement of 18,000 people from the risk area to pre-designated host areas. Different reviewers, internal and external, commented on the ORP. The study concludes that OR is a sound approach, that the guidelines are somewhat understandable and workable, and that much work should be done to improve the basic data preparation instructions and expand the role of industry. (Reference: Guide for Crisis Relocation Contingency Planning \*Part V: Organizational Planning for Crisis Relocation\*)

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Crisis relocation is a form of civil defense which involves evacuating major cities if war threatens. Organizational relocation (OR) could be an important part of crisis relocation. Many organizations, especially large firms, have the means to move employees and dependents. This study evaluates the OR concept and the guidelines for preparing specific organizational relocation plans (ORP). Private-sector industrial planners followed the written instructions, acquired data from various sources, and prepared a prototype ORP for a representative facility employing 7,000. The plan covers movement of 18,000 people from the risk area to pre-designated host areas. Different reviewers, internal and external, commented on the ORP. The study concludes that OR is a sound approach, that the guidelines are somewhat understandable and workable, and that much work should be done to improve the basic data preparation instructions and expand the role of industry. (Reference: Guide for Crisis Relocation Contingency Planning \*Part V: Organizational Planning for Crisis Relocation\*)

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